The Journal of the American Medical Association

VOL. XXXIV CHICAGO, ILLINOIS, JANUARY 13, 1900. No. 2.

Address.

MEDICINE AND LAW.*

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From my earliest recollection the science of medicine was to me a charm and a fascination, as presenting instrumentalities, agencies and opportunities of greatest good to the human family. Hence I should be singularly inappreciative, if I did not esteem the honor of presiding over the deliberations of this august body, assembled from the various states composed of and bordering the great Mississippi Valley, to advance our noble calling and thereby promote the happiness of our fellow man, as one of the most grateful of my life. Thus influenced, it is but natural that I should now wish to suggest something that, perchance, might be useful and pleasingly remembered.

The sciences of medicine and law are confluent and blend in the splendid duality of medical jurisprudence, and it is to be regretted that so few members of the two professions give this subject the attention which its importance demands. A knowledge of this science is imperative and should be understood by every physician and surgeon for his own safety and protection.

A discussion of this subject would be especially appropriate in Chicago, where, notwithstanding the medical profession takes front rank and is distinguished for names that can never be forgotten, yet its members are tortured to martyrdom by suits for malpractice, thick as "leaves in Valambrosa," or blackberries in a southern "brier-patch." You might infer that my sympathy in this respect is natural from a similar experience. This inference is correct. Yet in a rather large and varied experience, I have never lost a suit or compromised a case. I will therefore attempt to offer some thoughts on malpractice and the "damage suit," on which subject I had the pleasure of presenting a paper four years ago to the Tennessee State Medical Society.

Strange as it may appear, no systematic work gives a formal or technical definition of malpractice; I must therefore quote from a well-known jurist on this subject: "Malpractice is the unskillful or negligent treatment of a patient by a physician or surgeon, or some one undertaking to act as such, resulting in injury to the patient."

To constitute malpractice, unskillfulness and injury, or negligence and injury, to the patient must concur. The inquiry is natural: "What is meant by unskillfulness?" It is the want or absence of learning and experience in medical science. How much skill is required? The answer is: "ordinary skill." What is ordinary skill? Such skill as is usually possessed by the profession at the time and place when and where the patient is treated. This is what the law terms reasonable and competent skill in medicine. What is ordinary skill now would have been extraordinary, wonderful, incredible skill half a century ago. Oh! that I had time to speak of the triumphs and glories of medicine and surgery. How inspiring the theme, how it thrills and begs for utterance! But I must leave that for some one of talent, who can do this subject justice.

A doctor may be practicing in a sparsely settled country, and however well he may be informed in the theory of his profession, he has not the means and opportunities of observation, experience and association presented in a city. Hence the reasonableness of the rule which does not hold him to as rigid accountability as one more fortunately located.

A physician may *legally* contract for extraordinary skill and the law will hold him to his contract, but the Code of Medical Ethics wisely forbids such agreement. He is required to exercise ordinary diligence in the treatment of his patients, though he could legally contract for greater attention.

What reasonable diligence is, in contradistinction to neglect, depends on the nature of the disease or affection and the conditions and circumstances surrounding the case. For example, diligence in chronic rheumatism would be gross neglect in iritis, as Ellwell illustrates.

Contracts are expressed or implied—expressed, where agreed between the parties; implied, when inferred by the law from the facts and circumstances. The physician or surgeon who opens an office or holds himself out to the community as practicing, impliedly contracts for the possession of ordinary skill, and promises the exercise of reasonable diligence. He impliedly says to the patient, I am able to treat you and will not neglect you. When a patient or his friend or his relative calls such a physician or surgeon, he by implication promises to pay the usual and reasonable fee without a word being said on the subject. The contract for the amount of the fee, the time of payment, etc., may be fixed by the parties. The fee, however, is due when the services are rendered, unless otherwise agreed.

A physician or surgeon is not to be judged by results. He is not an insurer, unless in violation of medical ethics he, by express contract, becomes such. When he possesses ordinary skill, and exercises reasonable care and diligence, no recovery for damages can be had against him. This constitutes his whole duty. In evidence of skill he has the right to prove that he is a graduate of a reputable school, and to have established his reputation and standing by the evidence of his professional brethren. Even if there be not ordinary skill and diligence the patient can not recover, if no injury results therefrom.

If a person undertakes to act as a physician or surgeon, though he be neither, he is held accountable for any injury he thus causes.

A patient is compelled to co-operate with his physician in the treatment of the case. He must obey in-

* Presidential Address, delivered before the Mississippi Valley Medical Association, Oct. 3, 1899.

structions; no matter if to do so is painful or whatever the excuse, the physician can not be made responsible for injuries resulting from such disobedience on the part of the patient. In cases of doubt and uncertainty, where the profession and authorities are not agreed as to treatment, the medical attendant *must exercise his own best judgment.*

A physician *can* decline to attend a patient for reasons satisfactory to himself; nor is he required to give his reasons therefor. He is not a common carrier, hotel-keeper, or "yellow dog," but has the same rights and privileges as other professional gentlemen. The opposite opinion seems sometimes to be entertained by the community. A greater error could not prevail. Having, however, accepted a case, he must continue treatment until recovery or death terminates the relation, or the patient discharges him.

Pauper patients require the same skill and diligence as pay-patients. Our profession is justly distinguished for its charity and gratuitous treatment of the poor, yet most of the suits for alleged malpractice are brought by pauper patients, and of all, they are the most critical and exacting, and the least grateful. This is discouraging; nevertheless, it is a fact.

A well-known authority declares that two-thirds of the cases charging malpractice arise from *fractures and dislocations. Deformity* is the result of many fractures and can not be prevented. Patients who have had the very best treatment for fractured clavicles, Colles' fractures, etc., consult with doctors until they find one who will express an unfavorable opinion as to the plan of treatment adopted, or at least suggests that a better result could have been obtained. With this opinion, *patients* advise with lawyers and a suit for malpractice is instituted. Unfortunately, enmity, jealousy and rivalry are too often the cause of damage suits. A doctor is usually "at the bottom of it."

Prof. Austin Flint, Sr., abandoned the practice of surgery, and confined himself exclusively to the practice of medicine, because of the danger arising from damage suits. It does really seem that the safest course for a surgeon to pursue—not knowing what a jury might do—is to make over his property to his family.

The consent of a patient for an operation does not absolve the surgeon from responsibility; his duties and relations remain unaltered thereby. When he possesses the necessary qualifications and performs the duties required, he is not held responsible for mere errors of judgment; nor is he liable for declining professional assistance or consultation.

Owing to the fact that members of our profession do not make it a rule to learn their rights and duties to their patients, and reciprocally, those of their patients to them, they subject themselves to the continuous anxiety of doubt and uncertainty as to what they ought to do, or ought not to do; or what they ought to have done, or ought not to have done; and hence throw themselves unreservedly on their lawyers for direction and instruction. Now, while it is well to retain counsel with whom they can advise, yet it should be remembered that the lawyer must investigate before he can decide, and it often happens that the lawyer is not himself a medical jurist, and he needs instruction as much as the doctor. Besides this, it is in emergencies needing immediate action that one must use this knowledge.

A well-known medico-legal work, which is authority both in this country and England, lays down the following rules as established, to-wit:

"1. A physician or surgeon, without a special contract for that purpose, is never considered as warranting a cure.

"2. His contract, as implied in law is: *a,* he must possess a reasonable degree of learning, skill and experience, which is ordinarily possessed by others around him, in his profession; *b,* that he will use reasonable and ordinary care and diligence in the treatment of the case committed to him; *c,* that he will use his best judgment in all cases of doubt as to the best course of treatment.

"3. He is not responsible for want of success, unless it is proved to result from want of ordinary skill, or from want of ordinary care and attention.

"4. He is not presumed to engage for extraordinary skill, care and attention.

"5. He is not responsible for errors of judgment, or mere mistakes in matters of doubt and uncertainty."

It must not be inferred that the degree of care and skill necessary to be exercised in a particular case must be proportionate to the severity of the case. Such a doctrine has been urged, but has been very wisely rejected by the courts. If such a rule were adopted, the conclusion would naturally and logically follow that a physician and surgeon is legally required to exercise care and skill adequate to the severity of all cases that he undertakes. Such a test is manifestly absurd and beyond the possibility of human acquirement.

It is as culpable to compromise a suit for malpractice when in the right, as it is to resist when seldom in the wrong. Such compromises not only subject innocent men to grievous sacrifices, but encourage the bringing of similar suits against members of the profession.

It is the duty of the physician to give needful instructions for the care and attention of the patient during his absence or between visits. A failure to do so would give a right of action in the courts. Upon this point, Arthur N. Taylor, LL.B., who has lately presented a series of articles on "The Law in its Relations to Physicians[1]," suggests: "This obligation extends not only to giving instructions for the period during which the physician is attending the patient, but also for the period of convalescence immediately following. Therefore a physician should, upon dismissing his patients, carefully tell them what to avoid and advise them to exercise that care which, in his judgment, is best calculated to restore their natural health and strength."

By prescribing certain qualifications and attainments as conditions precedent to admission into the medical profession, and by defining the duties and obligations, the rights and privileges of its members, much good could be accomplished by the law-making power of the country. With this assistance we could the more easily establish and maintain honorable medicine, rebuke the ignorant pretender, repress empiricism and bring to justice the presumptuous charlatan, while resisting cruel and wanton attacks on meritorious members of the profession, and defeating vexatious and oppressive actions instituted by reckless and unscrupulous parties for purposes of speculation and persecution.

Let the profession as a unit stand by the innocent victim when unjustly attacked, as if it were a matter of personal concern to each, remembering that when one member suffers, the reflex action is felt by all. In harmony there is life; in union there is strength. Kentucky's motto should be our maxim: "United we stand, divided we fall." Our profession should be and is a fraternity, illustrating a glorious brotherhood in all its relations, bearings and dependencies.

[1] New York Medical Journal.

A wise physician, skilled our wounds to heal,
Is more than armies to the public weal.

The very name of medical science is suggestive of living thought, noble deeds, high morals, generous sacrifice and benevolent action; whose remaining charities, after feeding multitudes, fill to repletion the baskets of humanity and philanthropy; a profession possessing an incalculable force of restorative and recreative energy; whose Materia Medica comprehends earth, air, and sky; and whose Therapeutics levies contributions on the three kingdoms of physical science.

History announced an indubitable fact and Philosophy exclaimed: "The nation that shortens its sword enlarges its empire." Medical Science has reduced the sword to the dimensions of the scalpel, and moulded the bayonet into a tenaculum. Hence its empire comprehends the nations of the globe, and its soldiery rides the waves of every ocean, and walks the decks of the fleets of the world. This science has the earth for its theater and the people thereof are its *dramatic personæ* and the drama of its attendant revelations signalizes the splendor of its achievements.

Therefore, with a heart overflowing with fraternal felicitations, I congratulate you on being faithful, zealous members of this great and glorious profession, and joyously express at once the hope and belief that your presence and your deliberations, in this great city, will be productive of good to the cause in which we are so heartily enlisted.

Original Articles.

PRACTICAL USE OF RADIOGRAPH AND FLUOROSCOPE IN DISEASES OF THE LUNGS.

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AND

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PHILADELPHIA.

The subject on which I would like to say a few words has been quite thoroughly dealt with by Dr. F. H. Williams, of Boston, and my object is not to go into the methods as much as to report a number of cases which were admitted to the Rush Hospital for the Treatment of Consumption in Philadelphia, and of which radiographs of the thorax were taken before any physical examination was made. You will see that in every instance the shadow, which is the only thing at present demonstrable, and which in the early stage is not due to the transparency of the diseased lung, but to the greater or less amount of blood in the part affected in the period of expansion and contraction, was present in every instance, and on examination the physical signs were present to corroborate it. In looking through the fluoroscope, which is always desirable before a picture is taken, a marked diminution of the excursion of the affected side is also seen. The advocates of this method of examination for tubercular deposits in the lungs report cases in which the physical signs and symptoms of the disease were absent when the fluoroscope revealed disease at one or the other apex and after repeated examination the physical signs began to appear. It has been found by us that some cases will reveal disease when the fluoroscope is used, and when a radiograph is taken there will be no marked difference on either side. It is therefore always better to use the fluoroscope and abide by its decision rather than to rely on the radiograph.

CASE 1.—M. K., aged 21; single; American.

Family History: Mother is living and well; father died five months ago, of phthisis; five brothers died in infancy; one sister living, 19 years of age, is suffering from phthisis; three brothers and twelve sisters are living and in good health.

Previous History: The patient had measles in infancy, la grippe ten months ago.

Present Illness: Has been ailing for the last 3½ years; takes cold very easily; pain over chest; hemorrhage a year ago, about f℥ij; cough; expectoration profuse, greenish yellow in character; sweats; chills; stomach in fair condition; appetite good; bowels regular.

Radiograph 1 (shows only the left side; very little of the right; taken from the back) shows a large transparent area on the left side posteriorly at the level of the fifth rib, about 2½ inches long and 1½ inches wide.

Physical Examination: Inspection showed marked depression under the right clavicle; poor expansion over the whole chest: Palpation gave fremitus, increased at the left apex. Percussion gave dulness over the left side down to the second interspace. Auscultation showed expiration prolonged at both apices; râles on the left side, about the level of the second rib. At the left, posteriorly, the signs of a large cavity from the mid-scapula to the seventh rib; hyperresonant note over this area. At the angle of the scapula could be heard pectoriloquy and bronchial breathing.

CASE 2.—B. F., aged 18; single; American.

Family History: Father and mother living and in good health; three brothers and two sisters living and well; one died in infancy; one sister, 14 years of age, died of phthisis.

Previous History: The patient had scarlet fever and measles, otherwise good health.

Present Illness: Seventeen months ago she had a fright which she thought caused a hemorrhage; since then has had a bad cough, worse in the morning, with expectoration, yellow green in character; appetite good; no digestive disturbance; menses regular; palpitation; lost weight.

Radiograph 2 (taken from the back) shows generally darker at the left apex in comparison with the right, although at the right apex there is a slight shadow. On the right side, at the fourth rib can be seen a round transparent spot surrounded by a dark ring, and another spot extending from the fourth to the sixth rib. Over this area signs of a cavity can be heard.

Physical Examination: Inspection showed winged scapulæ and that the right shoulder drooped more than the left; chest well nourished; right side more retracted and less movement. Palpation gave increased fremitus at the right apex. Percussion revealed flatness at the right apex, and below this hyperresonance. Auscultation showed the breath sounds roughened and, at the level of the third rib, blowing breathing and gurgling râles; at the level of the fifth rib, amphoric breathing and pectoriloquy were heard. Posteriorly, at the right side, at the level of the upper part of the scapula and within was a patch of dulness. At the left apex there was impairment of resonance and harsh breathing, with a few râles.

CASE 3.—H. H., aged 25; single; American.

Family History: Father dead—accident; mother died of pneumonia; one brother died of pneumonia and another of some cardiac lesion; four brothers and one sister are living and well.

Previous History: The patient has had measles, diphtheria, and typhoid fever one year ago.

Present Illness: This began last January, when he caught a severe cold. He thinks he was rendered vulnerable by the attack of typhoid, during which he lost over thirty pounds, never regained; cough; expectoration, greenish yellow, occasionally blood tinged; pains over entire chest, more severe over right side near base of upper lobe; night sweats; at times he notices puffiness under the eyes; much dyspnea; usually has an attack of fever some time during the afternoon; has had one hemorrhage of consequence, which occurred last August and the amount of blood lost was about half a gill. There is palpita-

tion, vertigo, severe frontal headaches, no edema, nausea and vomiting quite frequent; appetite poor; bowels regular; flatulence; nocturnal urination (2).

Radiograph 3 (taken from the back) reveals a dark shadow over both apices, more so at the left. At this side, posteriorly, at the fourth rib there is a transparent spot, and also one on the right side between the third and fifth ribs.

Fig. 1.—M. K. Advanced case. 1, cavity; 2, area of intense light; 3, cavity; 4, heart shadow. Patient was unable to rest on her back, and only on the right side.

Physical Examination: Inspection showed the patient poorly nourished; marked retraction of whole chest, more marked at the right; winged scapulæ and bowed spinal column. Palpation gave increased fremitus and less expansion at the left. Percussion gave dulness above and below the clavicle at the left apex, and impaired resonance at the right. Auscultation revealed prolonged expiration at both apices, with râles at the left. At the fourth rib, left, and from the third to fifth on the right posteriorly there could be hard pectoriloquy, bronchial breathing and gurgling.

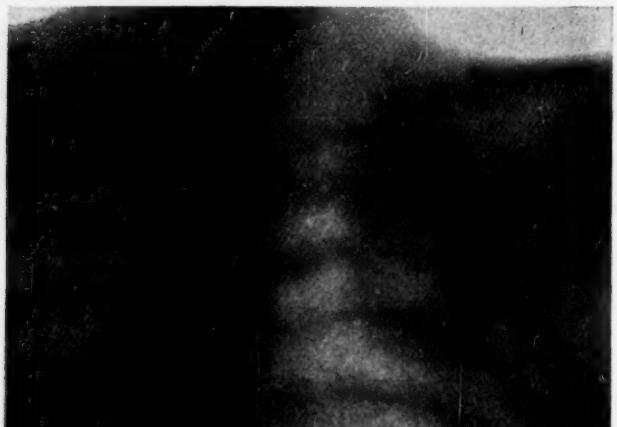


Fig. 2.—B. F. Physical signs: Right side is flatter than left, with somewhat more restriction of motion; apex is higher pitched than left, but anteriorly generally the chest is hyperresonant; at 5th rib right side tympanitic; at level 3d rib right side blowing breathing, gurgling râles; at the level of 5th rib amphoric breathing, pectoriloquy. Posterior on the right side at level of upper level of scapula is a patch of dulness, and left side breathing is harsh, few râles. Fluoroscope: Chest transmits light easily, especially the right side. 1, clavicle; 2, scapula; 3, 4, cavity; 5, heart.

CASE 4.—Mrs. N., aged 25; married; American.

Family History: Father living; mother died of pneumonia; no phthisis in family.

Previous History: Negative.

Present Illness: She was confined eight months ago, and has since had cough and lost weight; cough is worse in the morning; pain in the chest and back; dyspnea; palpitation; spat some blood.

Radiograph 4 (taken from the back) shows the left generally darker than the right. On the right there is a spot of transparency extending from the first rib to the third.

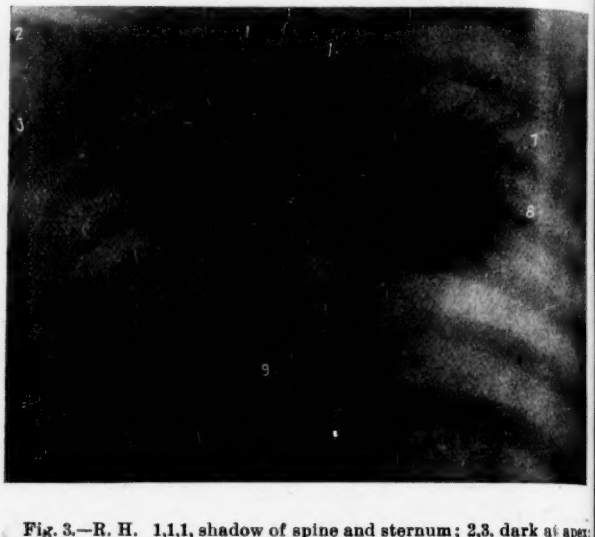


Fig. 3.—R. H. 1,1,1, shadow of spine and sternum; 2,3, dark at apex; 4, clavicle; 5, cavity; 8, cavity; 9, heart shadow.

Physical Examination: This showed dulness at the right apex and from the level of the fifth rib posteriorly to the mid-scapula; left side hyperresonant to the third interspace; cracked-pot sound at the second and third interspaces, nipple line to right side; crepitation; prolonged expiration; bronchial breathing over hyperresonant area on left side.

CASE 5.—A. H., aged 35; married; American.

Family History: Father and mother dead; cause unknown; one sister died of phthisis.

Previous History: Negative.

Fig. 4.—Mrs. N. Physical examination: Dulness at right apex, and level of 5th rib posteriorly at mid scapula; left side hyperresonant to 3d interspace; later normal cracked-pot sound at 2d or 3d interspaces, nipple line, right side; crepitation, prolonged expiration, bronchial breathing over hyperresonant area on left side. Does not show apices. 1, spine and sternal shadow; 2, patch of dulness; 3, scapula; 4 and 5, normal lung between consolidated apex and cavity; 6, spot of dulness; 7, scapula; 8, heart.

Present Illness: For the last year has had cough; dyspnea; expectoration, greenish yellow; night sweats; loss of weight; digestive symptoms; palpitation; bowels regular; appetite poor.

Radiograph 5 (taken from the back) shows the entire left side darker than the right, with two lighter areas. The upper right apex is also shadowed. On the right side posteriorly is

seen a transparent area extending from the fourth to the sixth rib.

Physical Examination: Inspection showed a poorly nourished patient; poor expansion over the whole chest. Palpation gave fremitus, increased over both apices. Percussion showed the right apex as dull to the second rib, and below this hyperresonant; the left apex, flat; posteriorly, the left base flat and the right base dull. Auscultation revealed prolonged expiration at both apices; over the whole of the left lung râles could be heard, and anteriorly, at the right side at the mid-scapula, blowing breathing and bronchophony.

CASE 6.—E. McK., aged 13; single; American.

Family History: Father and mother living and in good health; sister died of phthisis.

Previous History: He has been in good health up to the present time.

Present Illness: About two weeks before admission, he spat up something that looked like blood, which scared the family on account of his sister's "dying of consumption." On admission to the hospital, the boy had none of the symptoms of tuberculosis, except a slight rise of temperature in the evening. His appetite was good, and he looked like a boy in good health. He was examined by one of the physicians there and I was told that there were no physical signs of tuberculosis.

Radiograph 6 (taken from the front) reveals a darker shadow at the right apex.

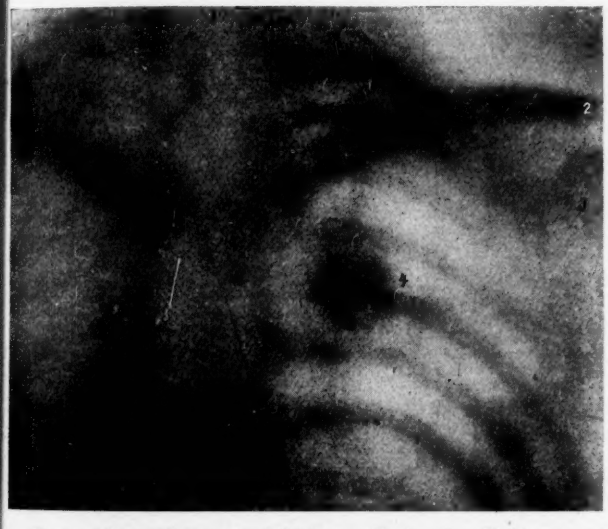


Fig. 5.—Advanced case of phthisis. A. H., female. Right apex was dull to second rib; hyperresonant below; left apex was flat; posterior left base flat and side generally; right base was dull. Left side, râles generally. Right side, mid scapula region, was blowing, breathing, bronchophony. 1, spine; 2, clavicle; 3, scapula; 4, cavity.

Physical Examination: Inspection was entirely negative. Palpation revealed slight increase in fremitus at the right apex. Percussion gave an impairment in resonance at the same side. Auscultation showed the breath sound could hardly be said to be altered.

The case was a suspicious one, but we could hardly make a positive diagnosis. On examining the radiograph it was found to correspond with the physical signs and explained why the boy had a rise of temperature, justifying the suspicion that there was a tubercular process going on that could not be positively diagnosed by the ordinary physical signs. This case, I think, shows the advantage to be derived from such an examination.

CASE 7.—R. S., aged 35; single; American.

Family History: Negative.

Previous History: Has had diphtheria; scarlet fever; was run over when a child and ribs hurt; rheumatism; last year, had an attack of typhoid fever and later an attack of pleurisy.

Present Illness: Since the attack of pleurisy, the patient has had a more or less constant cough, with pain in the chest, and now and then in the right shoulder-blade. Cough is worse in the morning; dyspnea; spits a yellow phlegm with some tinging of blood; no sweats; no fever; chilly at times; appetite fair; no digestive disturbance; bowels regular; nocturnal urination; menses regular; has some loss of weight and complains of weakness.

Fluoroscopic Examination: Left apex somewhat darker than the right, and extended a little below the first rib; another shadow about the level of the second rib; another dark spot an inch below the scapula to the left of the heart shadow; anteriorly this last shadow can be seen about the nipple.

Physical Examination: Inspection showed the chest to be decidedly flatter on the left side and the left clavicle more prominent; some lagging in breathing was evident, but expansion seemed about the same; the left scapula was more winged than the right. Palpation gave increased fremitus greater at the left apex than the right; back and front. Percussion showed the left side dull anteriorly, while posteriorly, at the left base, resonance was impaired; the right apex was dull above and below the clavicle. Auscultation gave harsh breathing at the right; bronchial breathing at the left, with an occasional râle; harsh breathing at the left base.

CASE 8.—J. G., aged 45; married; American.

Family History: Father and mother living and well; two brothers and one sister living and in good health; one child living and well; one child died of pneumonia; wife in poor health.

Previous History: He has had influenza and rheumatism, and is also subject to severe headache.

Present Illness: This began eight years ago, when he strained himself lifting. There is pain over the epigastrium, which gets worse when he takes cold; pain is sharp in character, but not as severe as it was; cough; expectoration; no sweats at present, but has been troubled with dyspnea; palpitation; sleeps poorly; no digestive symptoms; appetite fair; bowels regular.

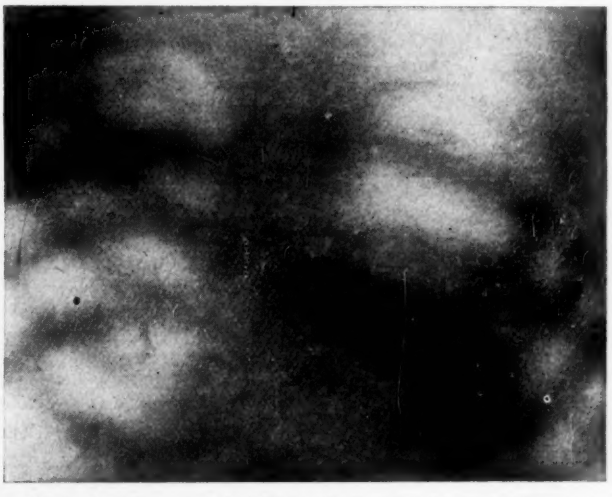


Fig. 6.—Incipient case of phthisis. E. E. Chest is generally clear but considerably darker at right apex. Right side darker at the apex. Left side light at apex. 1, spine and sterum; 2, heart.

Fluoroscopic Examination: The left side is generally darker than the right. On the right side, at the level of the second rib, is a darker shadow about 1½ inches in diameter.

Physical Examination: Inspection showed less expansion at the left apex and retraction of the same side, and the chest poorly nourished. Palpation gave increased fremitus at the left apex. Percussion revealed that the right apex was dull to the second rib, while the left apex was flat to the second rib. Auscultation showed over the left apex, sibilant and sonorous râles; posteriorly the same were discovered.

CASE 9.—C. McN., aged 45; married; American.

Family History: Negative.

Present Illness: This began six years ago, with an attack of pneumonia from which he suffered a relapse; since then has had dyspnea and much cough; the expectoration was mucoid and lumpy; no year has passed in which he has not had an acute exacerbation of the above symptoms, which confined him to bed for the time; during the intermission he has had a cough, but was able to work a little. He has had three typical hemorrhages, usually after severe attacks of coughing and during

which he spat up varying amounts of bright red blood; the first occurred three years ago—f℥iv; the second about one year ago—f℥iv, and he has had one since entering the hospital, not severe—f℥ij. At other times the expectoration is free from blood. He has lost fifteen pounds; appetite good; bowels regular; palpitation of heart with dyspnea, which is independent of exertion, but usually follows a severe attack of coughing; occasional night sweats last summer, none at the present time.

Fluoroscopic Examination: The left apex is darker than the right, though the right is dark. This darkness on the right side is due to the liver, which extends from the mid-sternal line to the seventh or eighth rib. The crease in the pectoral muscles showed very distinctly.

Physical Examination: Inspection showed a long, narrow chest, fairly well nourished; flat at the right; expansion fair. Palpation gave increased vocal fremitus at the left. Percussion was dull above and below the clavicle at the left apex, and at the right, to the second rib. Auscultation showed prolonged expiration at both apices; about the mid-scapula posteriorly a hyperresonant note could be heard on both sides.

CASE 10.—F. W., aged 26; married; Hungarian.

Family History: Negative.

Previous History: He had smallpox at 11 years of age; pleurisy.

Present Illness: This started three years ago, on exposure to cold, followed by pain in his side; he was blistered and relieved. Three months ago he began taking cold shower-baths and the old pain returned; this was severe, lasted three months, and was diagnosed as old pleurisy with emphysema; he now complains of a hard and dry cough, and spits a mucus of a blue color, sometimes yellow; appetite is good; bowels regular; no loss of weight.

Fluoroscopic Examination: Negative.

Physical Examination: There were no physical signs except an old pleuritic friction on the right side.

CASE 11.—L. P., aged 61; a sailor; six children; native of France.

Family History: Negative.

Previous History: Negative.

Present Illness: This started two years ago, with a cold, and since then has had a cough and expectoration—white yellow; spat some blood; dyspnea; no sweats; no fever; appetite good; digestion fair; bowels constipated; palpitation.

Fluoroscopic Examination: The chest is generally very dark. There is an exceedingly dark patch to the left of the vertebra at the level of the mid-scapula. Both apices are dark, while the right side is darker at the top; the shadow extends lower down on the left by one rib.

Physical Examination: Inspection showed the patient well nourished; the apex of the heart in normal position, the whole chest flat, a little more so to the left; slightly winged scapulæ; spinal column curved a little to the right. Palpation revealed increased fremitus at the right apex, with less expansion. Percussion gave marked dulness above the clavicle; impaired resonance below the clavicle on the right. Auscultation revealed prolonged expiration at the right; no râles.

CASE 12.—C. C., aged 21; single; American; gave negative family and previous history; with no symptoms except cough from nasal catarrh, also complaint of dyspnea. The fluoroscope examination was negative, as was the physical.

Judging from the cases reported, I am forced to conclude that this method would greatly help in the early recognition of tubercular disease of the lungs, and that a fluoroscopic examination should be made of any patient where there is the least doubt of the diagnosis. For example, in the case reported here, in which the physical signs were not marked enough to make the diagnosis positive, with the help of the X-ray the question was settled. Thus is recognized a stage in which proper treatment might be expected to produce a cure. In regard to the diagnosis of cavities, with this method an idea of the size of the cavity can be obtained, information which all other methods fail to positively give. Again, it is possible for physical signs of a cavity to be wanting, in which event the fluoroscope might reveal it.

CHALICOSIS PULMONUM OR CHRONIC INTERSTITIAL PNEUMONIA INDUCED BY STONE DUST.

BY WM. WINTHROP BETTS, M.D.
SALT LAKE CITY, UTAH.

The advent of the cyanid process of milling makes it possible to treat large bodies of low grade ore that previously could not be handled at a profit. This involved new methods of milling and taxed the ingenuity and inventive genius of the promoters. The transition has forced the expenditure of large sums of money and involved certain loss of human life by exaggerating old causes of danger. Many of these milling plants are springing up in the mining districts of the west, all involving more or less the same difficulties, but in order to make my investigations of a scientific value I must necessarily study the history of a single plant. I, therefore, desire to report the observations and experience of myself and friends among the workers of such a plant, also to call your attention to the greatly increased rate of mortality among the employees, induced by the constant inhalation of the fine dust produced by the crushing of these ores.

Whether we call the cases fibroid phthisis, chronic interstitial pneumonia, stone-cutters' phthisis, miners' consumption, or chalicosis, depends on the character and amount of foreign matter, or classify them under the generic name of pneumonokoniosis, makes but little difference. All convey to our minds a pathologic process with a clinical history the exact nature of which depends largely on the stage in which the case is found by the pathologist. Authors agree, however, in the dust causation, and in the cases under consideration the foreign matter is excessive. At the Delamar mill the ores, which are a gold-bearing quartzite, are crushed, dried and ground into a fine powder in what is known as the Griffin mill, conveyed to bins, and thence through chutes to cars which are wheeled to the tanks. In and about the mill the air is filled with an impalpable dust and in portions of the mill it is so dense that one can not be recognized a few feet away, and an electric light is in evidence by a spark.

The mill has been in operation since September, 1894, employing about 40 men, the capacity being increased from time to time until about 60 men are now being employed. It is stated that most of the men who worked in the mill from seven to nine months previous to January, 1898, are dead, and the others are sick. A review of the cases as compared by the employees to March 1, 1899, gives 166 deaths. Since then, to my personal knowledge, 3 have died in St. George. A later statement by a gentleman who has the disease himself, and is the editor of a Nevada paper, puts it at 200. Dr. Mayo, who was the company's physician from January, 1895, till a few months ago, and to whom I am indebted for much valuable information, states that only 38 have come to his knowledge. This I am sure is too low, and while 200 is an exaggeration, I believe an average of these figures nearer correct, as almost every town in Nevada and southern Utah has had its victim, for it is a fact that neither the company nor the men realized their danger until the deaths began to occur. My attention was directed to these facts while at St. George, as quite a number of the young men were employed in the Delamar mill, 11 of whom have died within the past year. A number of others are suffering from the disease. After interviewing the attending physicians and the unfortu-

nate families, I have been able to gather much of interest concerning the cases.

I find, on further interviewing my professional friends, that a number have been treated here and died in the hospitals of this city. A great many of the men were from adjoining states and the far East. Many would return to their distant homes as soon as they were broken in health, and it is difficult to keep track of them, though many have died and others must, as the disease involves lesions which do not admit of recovery, and sooner or later prove fatal. I have examined a number of cases in various stages of the disease, and some of them might come under the chronic form as they are able to get around and occasionally do some light work, though they were obliged to leave the mill months ago.

A few years ago I examined a patient in this city, who was for twenty-seven months foreman of carpenters, and for weeks and months at a time was inhaling the dust. He worked, however, eighteen months before suffering any inconvenience, though the pathologic process had undoubtedly been established for some time. He first noticed shortness of breath, loss of appetite, fatigue on slight exertion, and emaciation. The cough and expectoration were slight for months. He has now been in the city for about a year. The pathologic process continues and his symptoms do not improve, though from present indications he will live some months. His clinical history and physical examination reveal a condition typical in fibroid phthisis, and in marked contrast to the poor fellows who after three months' exposure died within a year. Thus we have all grades, as will be shown later, depending on the general constitution and natural resisting power of the men, also largely on the amount of foreign matter inhaled. The mucous and alveolar cells are the normal scavengers of the lungs and are capable of protecting the organ in a measure, but when the dust is excessive the scavengers are overworked and break down, so to speak, leaving the lungs exposed to just what occurs in these cases.

Every man who works in the mills from two to three weeks is subject to attacks of acute bronchitis, which is due not only to the irritating effects of the dust, but to their apparent inability to resist slight exposure. The mucous membranes of the nose, throat and conjunctiva are all subject to acute inflammations. The bronchitis is followed by a soreness along the course of the trachea and bronchial tubes, usually more marked on the right. After coughing has continued for a time there will be soreness in the region of the stomach and loss of appetite. There is loss of weight and shortness of breath, the respirations running as high as 38 to 42 per minute on the slightest exertion. As the weeks pass the loss of weight continues. The respiration does not improve, the patient suffers a general malaise and soon finds it impossible to get about, and by the time he is confined to his room has lost from 30 to 60 pounds in weight. The features are drawn and eyes sunken. The pulse ranges from 90 to 120, and is weak and intermittent. Patients are restless, anxious and apprehensive of results; they do not sleep well and are subject to hideous dreams. As the disease becomes more marked and in its later stages, the temperature may rise to 102 or 104, though a high temperature is not always present. There is a characteristic odor of the breath at all times, probably due to the peculiar odor of the silicious dust modified by the cyanid odors about the mill, which permeate the clothing and surroundings of the patient. There is no arsenic, as has been stated.

I have spent much time and labor in getting at the facts and, so far as the cases are reported, the histories have been furnished by the families and physicians. About thirty cases of death I am unable to report from lack of history. I have sent out history blanks to all the men I can reach who have worked in the mill thirty days and over, to be filled out, whether sick or well, and returned; but it will be months before I can report the final statistics. From the starting of the mill till September, 1899, the average number of men employed was fifty. The change in the personnel of the employees working thirty days or over was about fifteen each month, though in some instances it would be many times this number—men who could only work a shift or a day or so. However, a change of fifteen per month per sixty months is approximately correct, which give us, by adding fifty for our first month and fifty for carpenters and others who have been obliged to come under the same influences, a thousand men for the five years. Of these, a large number have chronic interstitial pneumonia and many are already helpless, and, conservatively speaking, about a hundred have already died; six that I know of in the past two months, and the death-rate will necessarily be greatly increased among these sufferers as soon as cold weather sets in.

I have tabulated the report of the following thirty cases.

It will be seen by this report that all were comparatively young men, from 20 to 40 years old, with the exception of O. N. W., who was 43. All were fine specimens of physical vigor, with no unfavorable family histories, and none had acquired tuberculosis nor any other lung trouble. It will also be noted that the time of employment extended over a period of three months in the case of J. F., who survived seven months after leaving the mill, to twenty-five months in the case of A. W., who survived but three months. The average time of employment, however, was fourteen months, and the average time survived, ten months. The average time from entering the mill to the termination of the pathologic process was twenty-nine months.

The employment was not continuous in all cases. In some instances there would be a lay-off of several months, though I was unable to secure exact time. I have designated such as intermittent and given actual time worked. O. N. W. was not, properly speaking, a mill employee, but a carpenter, and originally worked on the construction of the mill, and does not figure in these statistics. He had been employed from time to time in and about the mill on repairs and improvements, thus coming in contact with the same influences as the regular operatives. He survived four years and nine months. In three cases the weights were taken a few days before death. D. A. A. dropped from 175 to 120 pounds, C. F. from 165 to 110, and H. M. from 140 to 80.

The capacity of the Delamar mill is the reduction of 300 tons of ore every twenty-four hours. The men employed in this process are divided into shifts of eight hours each. Among the thirty cases reported are the members of what I choose to call the Frome shift, as C. F. of Gunnison, who died Sept. 22, 1899, was the last survivor of one of the groups of eighteen who worked together long enough at one time between March, 1896, and September, 1898, to claim the personnel of a shift. I mention this as an interesting fact and to further impress the necessity of reforming the hygienic conditions in this line of work. I beg your indulgence while I record a few object-lessons made possible by the kind-

Name and address.	Age.	Height.	Weight.	Commenced work.	Stopped work.	Time worked.	Time to death.	Whole time.
D. A. A., St. George, Utah, married	38	5-7	175	March, 1897.	February, 1898.	12	10	22
G. A. L., St. George, Utah, married	33	5-10	165	May, 1897.	December, 1897.	8	3	11
O. L., St. George, Utah, married	22	6	175	August, 1896.	February, 1898.	16	11	27
F. C., St. George, Utah, married	35	6-1	180	May, 1896.	June, 1899.	‡‡	1	37
L. C., St. George, Utah, single	20	5-10	170	October, 1895.	September, 1897.	* 23 months, 18 actual time.	6	29
G. W. M., St. George, Utah, married	38	5-9	150	March, 1896.	February, 1898.	19	2	21
H. M., St. George, Utah, married	28	5-7	140	December, 1895, to March, 1897.	September, 1897.	* 4 5=9	19	28
J. F., St. George, Utah, married	28	5-8	160	April, 1896.	June, 1896.	3	7	10
M. C., St. George, Utah, single	24	5-10	170	September, 1896.	December, 1896.	3	12	15
L. B., St. George, Utah, single	27	5-10	165	January, 1896.	December, 1898.	23	2	25
R. L., Beaver, Utah, single	24	5-7	160	October, 1897.	June, 1898.	9	4	13
T. L., Pangistch, Utah, married	28	5-11	155	June, 1896.	April, 1897.	15	3	18
J. H. L., Pangistch, Utah, married	40	5-6	165	1898.	1898.	5	7	12
J. H., Delamar, Nev., single	40	5-9	140	October, 1895.	October, 1897.	24	1	25
Wm. C., Delamar, Nev., single	39	5-5	135	November, 1896.	December, 1897.	12	1	13
P. T., Baltimore, Md., single	23	5-4	165	November, 1897.	October, 1898.	11	3	14
A. W., Columbus, Ohio, single	24	5-8	140	July, 1896.	August, 1898.	* 25	3	28
J. H., Hillsboro, Ohio, single	27	6	210	May, 1895.	August, 1898.	* 10	12	39
A. S., Fillmore, Utah, single	22	5-9	155	April, 1897.	March, 1898.	12	1	13
J. C., Oregon, single	35	5-6	150	August, 1896.	September, 1897.	12	14	26
M. F., Unknown, single	35	5-7	150	January, 1896.	April, 1897.	14	18	34
J. McC., Unknown, single	27	5-7	157	January, 1896.	July, 1896.	7	5	12
Chs. F. Gunnsson, Utah, married	36	5-7	165	March, 1896.	September, 1898.	18	12	30
R. H., Masonvally, Nev., married	38	5-7	155	1896.	1898.	22	11	33
O. N. W., St. George, Utah, married	43	6-1	175	September, 1894.	June, 1897.	* 30	12	55
E. S., Richfield, Utah, married	33	6-2	226	August, 1895.	November, 1898.	* 19	10	48
A. W. H., Annabelle, Utah, single	31	5-8	155	March, 1896.	July, 1896.	4	13	17
J. A. B., Paragonah, Utah, married	27	6	165	August, 1895.	June, 1898.	* 12	15	48
R. P., Colorado, married	35	5-9	145	August, 1897.	January, 1898.	6	10	16
F. C., Arizona, married	38	5-6	150	June, 1897.	February, 1898.	8	6	14
General average	30	5-8½	170			14	10	29

‡‡ Thirteen months in mill; nine months night foreman, rest in mill.
* Intermittent.

ness of J. T. Affleck of St. George, and Dr. Neal of Richfield, which really form the basis of this paper.

REPORT OF AUTOPSIES.

F. C. of St. George.—After the usual preliminaries the sternum was disarticulated from the clavicle, and it, with the cartilaginous ends of the ribs, removed. The inferior surface was adherent to what was at first supposed to be the pleura. After a careful dissection a congested serous membrane was revealed, extending from the sternoclavicular articulation to the diaphragm and well under the ends of the ribs to the right. After further dissection the right lobe of the lung came into view. On the left the adhesions seemed firmer and extended well down some four inches. During this dissection a slight puncture was made in the surface, followed by the escape of gas accompanied by bubbles of fluid. This relieved the pressure, and it became apparent that we had an enlarged pericardium to deal with—or pneumopericardium. The adhesions could nowhere be separated with the hand—in fact they were so strong that it was only after a careful dissection from the diaphragm and spinal column and laterally and posteriorly from lung tissue that the sac could be removed. An effort was made to remove it intact, but most of the fluid escaped, and was of a serous nature, slightly tinged with blood; its size can be imagined from the measurements, nine inches long and seventeen in circumference.

On sitting up and inverting the pericardium the cardial surface was found to be greatly roughened, having much the appearance of tripe. While the membrane was thickened, the heart itself had much the same appearance, the surface being rougher at the base than at the apex. The whole organ was enlarged, flabby and dilated; the valves were in a fairly normal condition so far as their anatomic relations were concerned.

The anatomic relations of the arch of the aorta and large vessels to the mediastina as well as the trachea and bronchi were entirely obliterated and so matted together that dissection was not attempted. The vessels and bronchi were severed and the lungs removed with little further difficulty, though there were local areas of adhesions which could mostly be separated with the hands. The general appearance was that of congestion, the surface to the eye was fairly smooth, though to the touch nodular and hard, surface generally pigmented, which with the congestion gave a dark color, and the impression that the patient might have died from pneumonia. The edge of the superior, middle and inferior lobes of the right lung were very hard, though the whole lung seemed firm to the touch. In cutting into the lung there was considerable resistance, made more apparent as local areas of cirrhotic tissue were encountered. The cut surface was reddish brown and extensively pigmented. Between the densely cirrhotic areas the lung was infiltrated with a mucopurulent secretion, which on the slightest pressure, bathed the surface in a reddish-gray fluid. The appearance after a fresh incision was that of mottled hepatization of pneumonia, i. e., a mixture of the gray and red. The left lung was of the same general character except the lower half of the superior lobe, which was the only portion of the lung apparently being used at the time of death, and that was far from normal. A number of tracheal and bronchial glands from the size of a hazel-nut to that of a large olive were removed; these, on section, were slate-gray in color.

O. N. W. of St. George.—There was emaciation; ribs prominent. The sternum, with the cartilage ends of the ribs, was removed. The sternoclavicular articulation was ossified. Adhesions were firm to the pleura and pericardium, the latter adherent to diaphragm; also posteriorly, and slightly so to the left. Bands of adhesion also bound down the aorta and large vessels. The anterior mediastinum was obliterated. The pericardium was slightly thickened through its cardial surface, but smooth and normal in appearance. The heart generally was hypertrophied, otherwise normal. On passing the hand over the lung, slight resistance was met by bands of adhesions, laterally and posteriorly, which, however, were not general and could be easily separated. To the touch the left lung was firm and hard, more that of well-developed muscle covered with dense fascia. In grasping the lobe between the thumb and fingers, and using all the force possible, approximation was very slight, much the same resistance that would be met in grasp-

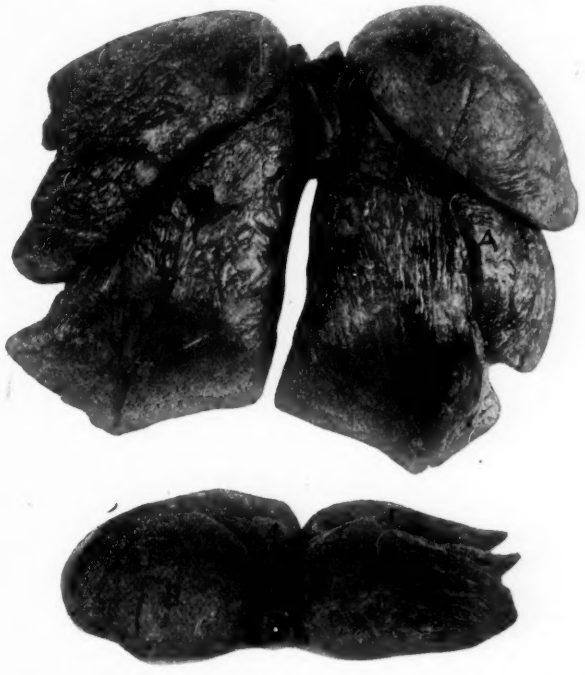
ing the muscles of the thigh in a similar manner. An incision through the inferior lobe met with considerable resistance and revealed dense fibrous tissue, to the touch a shot-like granular surface and deeply pigmented. The serous coat was dense and one-quarter of an inch thick, gradually becoming thinner toward the apex of the superior lobe. The lung, while cirrhotic throughout, was less dense at the apex, though it was evident it had not been used for some time. As we lifted the right one from the pleural cavity, its appearance was that of a single lobe. The adhesions between the inferior and middle lobe were complete, the surface perfectly smooth, only the suggestion of a line remaining. Between the middle and superior lobe there was a slight separation at the very tip, otherwise adherence. A careful examination was made and the fibrous process was found well developed and extensive, the lower border of the inferior and middle lobes being the most cirrhotic. The cut surface was reddish-brown, deeply pigmented and bathed in a mucopurulent secretion, and the same mottled hepatization as in the previous case. The upper half of the inferior lobe and one or two areas near the apex had apparently been sustaining the patient previous to the acute inflammation, which had been present for about a week. All portions of the right lung capable of action were undergoing active pneumonia, with the accompanying characteristics. As in the previous case the tracheal and bronchial glands were enlarged. In both cases a careful search was made for cavities, but none were found. The mucous membrane of the large bronchi and trachea were in a state of chronic inflammation. Owing to the great prejudice and that there had been no symptoms pointing to disease of other organs, the case was not examined further.

I have reports of four autopsies held at Delamar, Nev., when the deaths first began to occur. However, the cases just described are typical of the others—the same cirrhotic lung, infiltrated with a mucopurulent secretion, a mottled hepatization, the fibrous process developed throughout, though more marked in the lower portion of the lobe, and active areas of lung tissue near the apex of either lobe. Careful examination of these patients failed to reveal any cavities. The tracheal and bronchial glands were enlarged and heart hypertrophied.

An autopsy was reported at the Keogh-Hosmer Hospital, similar in many points to the autopsies just described; but in connection with the cirrhotic condition they found multiple abscesses and much broken-down tissue. The patient had apparently been suffering from sepsis from the retained secretions of the lungs.

The following case—E. S. of Richfield in the report—is of unusual interest even among these very interesting cases, as the man was a giant in size, strength and endurance. There was nothing that contributed to his death save the pathologic process under discussion. I wish to call attention to the fact that no active areas existed in the superior lobes, and there was very little lung of any use except in the lower border of the left lobe. I make no comments, but state it as a fact as reversing the experience of the other autopsies. In this case I was fortunate enough to secure the lung shown in the photograph.

In health this subject weighed 226 pounds, but there had been a probable loss of 75, and the emaciation had left the articular landmarks of his massive frame prominent, while his legs and ankles were considerably swollen. After the usual preliminaries nothing unusual anteriorly, in the way of adhesions, presented as in the other autopsies. The mediastinum was well marked, pericardium not adherent anteriorly, but a careful dissection was necessary to separate it from the lungs laterally, and posteriorly from the spine and aorta, also from the diaphragm. The aorta, the trachea and large vessels, together with a large number of bronchial and tracheal glands, made a mass also difficult to separate. The pericardium was not greatly thickened and its cardial surface was smooth and contained the normal amount of fluid. The heart was only slightly enlarged and hypertrophied, while its valves were normal. On passing the hand over the lung considerable resistance was met laterally and posteriorly. The adhesions were pretty general, and force was necessary to separate the pleural surface. The trachea was severed about three inches above the bifurcation and both lungs were removed intact. What at first impressed us as unusual was the density and great weight, later found to be 134 ounces, while the average normal weight of the lungs of a male adult is only 42 ounces. On close inspection the surface was found generally pigmented, and adhesions were rather



The photographs here shown were taken October 10, twelve days after autopsy, and after the lungs had been through the usual washings and subjected to the action of alcohol, the shrinkage and loss of fluids being 44 ounces, giving us 90 ounces at the time of photographing. The shrinkage has brought more prominently to our notice the densely cirrhotic areas.A. A. A. A. Particularly is this true of the superior lobe B. in which the whole lobe is shown to be smooth and hard, very little shrinkage having taken place.

general between all the lobes, right and left, which in part could be separated with the hand; others it was necessary to dissect. The superior lobe of the right lung was very dense, with little to suggest lung tissue, and had more the appearance and consistency of a fibroid tumor. (See B in illustration.) The middle and superior lobes were of the same general character, though less marked, and it is safe to say that there were no areas of active tissue in the right lung. In the left there were active areas more marked in the lower borders of the lobe; but in the superior and middle parts of the lobe there were dense fibrous areas. (A. A.) There was no active pneumonitis nor congestion as found in the other cases. On section of the dense fibrous areas there was very little oozing, while an incision through the active and less fibrous portions left the surface bathed in a mucopurulent secretion, which on slight pressure

was reddish-gray in appearance. There were a large number of tracheal and bronchial glands which, on section, were slight gray in appearance. The stomach was also removed, as many of the patients suffer more or less from digestive disturbances, but nothing was found save a slight congested appearance and post-mortem changes. The liver was of normal size and consistency, the spleen not enlarged, the kidneys not affected.

For the chemical analyses I am indebted to F. A. Bishop, assayer and chemist, Salt Lake City, and from these I have prepared the following table:

Weight in grams.	Moist.	Dry.	Silica.	Per cent. deposit.	Dry.	Moisture.
A Bronchial glands	5.52	1.57	.14	2.561	8.9	
B Dry lung	. . .	2.4	1.65	. . .	6.8	
C Superior lobe, R. L	10.	. . .	.16	1.6	. .	
D Inferior and middle lobe, R. L	14.95	. . .	20.	1.334	. .	
E Superior lobe, L. L	10.97	. . .	.23	2.	. .	
F Inferior lobe, L. L	19.22	. . .	32.	1.65	. .	
G Average from either lung	26.35	5.73	36.	1.56	6.28	74.5
Average of C, D, E, F, G	. . .	. . .	. . .	1.588	. .	

The weight of the lung when the specimens were taken, Oct. 10, 1899, was 90 ounces.; average per cent. silica, 1.588—1.43 ounces., or about 3.375 cubic inches of Delamar dust in the entire lung. A fractional per cent. of iron is also found in the silicious residue.

In the acute stages of the disease the diagnosis becomes important as the condition has been mistaken for typhoid fever, typhoid pneumonia, acute miliary tuberculosis and bilious remittent fever and tuberculosis. While pneumonokoniosis is the generic name given to the various affections of the lungs produced by the inhalation of dust-like particles, chalicosis pulmonum is given to the pulmonary changes induced by the inhalation of stone dust. Niemeyer, Flint, Osler and others agree that the irritation from dust lights up a bronchitis and is conveyed through the lymph spaces and lymph vessels into the interlobular and perilobular connective tissue; and some of the particles reach the bronchial glands. The chemical[1] examination of the lung shows the presence of silica, 2.8 per cent., in the lung tissue and 3.8 per cent. in the glands. There is a great disposition to the formation of nodules and diffused masses of fibrous tissue. The cases are, therefore, more properly regarded as chronic interstitial pneumonia, which consists in the gradual substitution, to a greater or less extent, of connective tissue for normal lung, by the gradual process of organization of the fibrous plugs in the air-cells, while the alveolar wall becomes greatly thickened by the new growth, and the whole lung may undergo a fibrous transformation. The different conditions under which these changes occur are so varied that a proper classification is difficult, but the interstitial changes play a very important rôle in all chronic lung troubles. There is no sharp line of demarcation between fibrous phthisis and other forms of chronic pulmonary phthisis, and there are instances of fibrous phthisis which can not be distinguished from cirrhosis of the lung from other causes. But in the light of the clinical history of these cases, the revelation by autopsy, microscope and chemical analysis, I have no hesitancy in speaking of them as chalicosis pulmonum, or chronic interstitial pneumonia.

In regard to treatment, nothing therapeutically is of any avail, though much can be done to prolong life by improving the hygienic conditions and stimulating the general nutrition.

[1] St. George's cases, dry specimens, though not enough for a fair test.

Among the cases coming under our observation there are none where "an ounce of prevention is worth a pound of cure" more emphatically applies than in the diseases induced by the inhalation of irritating dust. No one can study the industrial hygiene and carefully note the relations of occupation to life and health without fully recognizing that from the gentleman of leisure to the mechanical operative, the soldier and mill-hand, all have their dangers incident to the various occupations; but it should not follow that no effort should be made to minimize them. I believe it is our duty as scientific physicians not only to point out the danger from contagion, and to render innocuous the germs lurking in our food and water-supply, but also to call attention to the causes of disease induced by the industrial occupations, suggest proper sanitary and hygienic measures, and force, by our teachings, a wholesome regard for the comfort, health and life of the employees, thus reducing the dangers to a minimum. I do not believe any organization, however influential, should presume to dictate to the medical profession or embarrass the physician in his work; much less endanger the health and life of men who are lured by the wages offered—$2 to $5 a day—into what may prove a death-trap, and feel they have discharged their obligations to the men, their families and the public by producing revenues for a "soulless" corporation, regardless of the sacrifice of human life. Notwithstanding the obstruction and criticism I have encountered in the preparation of this paper, no man, nor association of men, is on trial. This is one of the cases in which truth is stranger than fiction, and I have simply stated facts. If I have succeeded in attracting the attention of the profession, and through it the public, to the necessity of reform in the field of so-called preventive medicine, I will feel repaid for my time and labor.

In a subsequent paper now being prepared for a mining and scientific journal, I will speak of the hygiene of mines, mills and smelters, but suffice it here to state that there are no mechanical difficulties to prevent the scientific ventilation of mills and free them from dust by a proper distribution of hoods, fans and dust-collectors, thus improving the hygienic conditions and making them comparatively safe.

Some weeks ago I visited the mill at Delamar, Nev., and in justice to the company let me say that the present superintendent is sparing no expense to improve the hygienic conditions, which in a measure will remove the cause of trouble.

NOTES ON CATELECTROLYSIS (ELECTROLYSIS) IN THE TREATMENT OF SKIN DISEASES.

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There is such a radical difference between an operation performed with intruments connected with the positive pole of a galvanic battery and one performed with instruments connected with the negative pole, that both should not be designated by the one common name "electrolysis." I would like to suggest that we call the operation performed with instruments connected with the negative pole—cathode, catelectrode—"catelectrolysis," and that with the positive pole—anode—"anelectrolysis." The development of oxygen at the positive pole, when the current is closed, makes it impossible to use a steel needle, or jeweler's broach, in anelectrolysis,

nor can there be made such a fine, strong and springy instrument out of gold, platinum, iridium or silver. This is a mechanical disadvantage only, but anelectrolysis has little intrinsic value—in fact, it acts like a simple cauterization by heat. It is entirely different with catelectrolysis. What we can accomplish here is this: We can charge, as it were, a steel needle with caustic alkali, after having inserted it into the tissues, let it act in position, stop its action at will, and finally withdraw it

Fig. 1.—Battery containing 32 dry Leclanche cells, carbon current controller, pole changer and direct reading milliampèremeter. Electromotive force, 45 volts.

in as inert a condition as it was before. This is not cauterization, to be sure; it is rather a most delicate and accurate injection of a caustic into the tissues. At the same time, this injection—if I may call it such—allows of an accurate dosage, both by measuring the strength of the current and the time of exposure.

Another advantage, to which I have called attention in my previous contributions on this subject, is that a

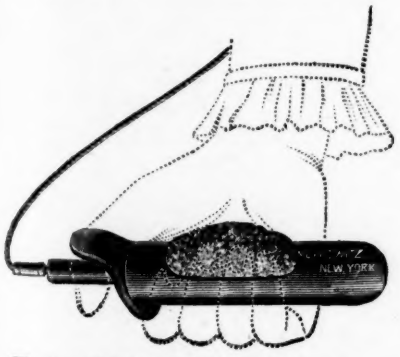


Fig. 2.—Author's sponge electrode to be connected with the positive pole.

certain degree of local anesthesia can be produced by properly managing it. Thus the operation becomes an almost painless one. That, in spite of these points in its favor, catelectrolysis has not become more popular than it actually is at present is largely due to the fact that there exists in the minds of many physicians a somewhat pardonable prejudice concerning the complexity and unstability of medico-electric apparatus in general. The modern tendency to draw electricity from one common source for a variety of medical purposes—faradization, galvanization, cauterization, electrolysis and illumination—is much to blame for this condition. The first step, therefore, to popularize electrolysis was to simplify the apparatus. This has now been accomplished. The battery, the rheostat and the milliamperemeter are all contained in one comparatively small portable box. The portability is a great advantage, because electrolytic operations require a good light, and it is frequently necessary to shift the position of the patient in relation to the window, etc. It is also desirable that a good light strikes the dial of the milliamperemeter, which must be watched constantly by the operator. The deflection of the needle not only indicates the strength of the current, but the moment of its closure and the beginning and the end of the electrolytic action.

For connection with the positive pole I devised a special sponge electrode a number of years ago, and have continually used it since with great benefit. It is a hard-rubber cylinder with a metal-lined cavity, fitted

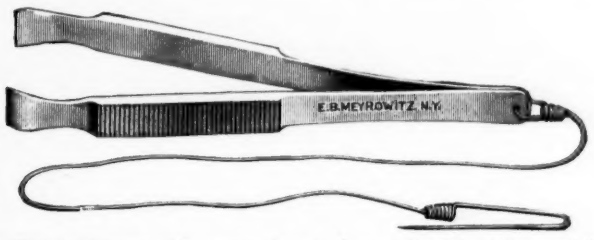


Fig. 3.—Forceps with square jaws and new attachment for cord by which it can be suspended on the coat of the operator.

with a sponge which can be easily removed, moistened and replaced. The electrode is placed in the patient's hand, sponge upward. By closing the hand, i. e., moving

Fig. 4.—Spraying tube of Kelene (chlorid of ethyl) for local anesthesia. The cap adjusts itself automatically.

the fingers toward the center of the palm, while the thumb remains quiet in flexed position, contact is effected and the current closed. The strength of the current may then be gradually increased by pressing the sponge farther down into the cavity of the electrode.

Fig. 5.—Author's needle holders with ball and socket joint, the former perforated in three directions. Needle is firmly secured in place, or loosened by rotating the rubber part of handle.

The instrument is operated by the patient without looking and moving the head, which is very important, because a great many electrolytic operations affect the face.

The needle-holder for connection with the negative pole should be so constructed as to hold the needle at an angle of about 45 degrees. The operator, standing or sitting at the patient's side, should carry the instrument

in his hand like a pen. Almost all catelectrolytic operations can be performed with a so-called jeweler's broach. In exceptional cases a sewing needle of very fine caliber may be substituted. The broach or needle is made to pierce into the tissue, or is introduced into a follicle, and then the patient is directed to close the hand, and start the current by gradually touching the wet sponge of the electrode. A current strength of from two to five milliamperes, with an average exposure of twenty to thirty seconds, is sufficient for all cases. A weak current with longer exposure is naturally less painful than a stronger with short exposure. The local anesthesia, which I mentioned above, is best produced by a weak current with an exposure of half a minute. Later on the strength of the current may be increased and the time of exposure shortened. About two minutes pass before anesthesia appears at the site of the puncture. By the coalescence of a number of punctures a considerably large focus of anesthesia may be produced. If the field of operation be previously frozen by aid of the ethyl-chlorid spray, catelectrolysis will be entirely painless.

The list of diseases of the skin in the treatment of which catelectrolysis is recommended is quite extensive and still continually increasing. It includes: hirsuties —superfluous hair—nevi pigmentosi, papillomatosi and verrucosi, verrucæ molles and duræ, xanthoma planum and tuberosum, keloid, angioma simplex, cavernosum, plexiforme and seripiginosum, acne rosacea, trichophytosis barbæ, lupus vulgaris and erythematosus, adenoma sebaceum, angiokeratoma, milium, elephantiasis and sclerodermia circumscripta.

It is easy to formulate the indications for catelectrolysis from a general point of view. The operation is indicated wherever the avoidance of the formation of scars is of importance. In this regard it is superior to the galvano-cautery, the Paquelin, the micro burner, and all the chemical caustics; furthermore, wherever a strictly limited local action is desired. Particularly well adapted for treatment with catelectrolysis are small, solid and soft cutaneous tumors which protrude above the level of the normal skin or are pedunculated. No other operation equals catelectrolysis for the destruction of hair follicles and sebaceous glands. It is not of great value, on the other hand, in the treatment of either malignant new growths, or of those benign tumors, which have a tendency to spread very rapidly.

640 Madison Avenue.

CASE HISTORY AND PHOTOGRAPH.*

BY B. MERRILL RICKETTS, PH.B., M.D.
CINCINNATI, OHIO.

Walter S., white, 31 years old, gave a negative tubercular and syphilitic history. He had a small, congenital dark mole two inches below the right nipple, which began to increase in size about December, 1896. During October, 1898, it had increased to 3x4 inches in size. Dr. G. S. Hancock, of Campbellsburg, Ind., then had the new growth excised.

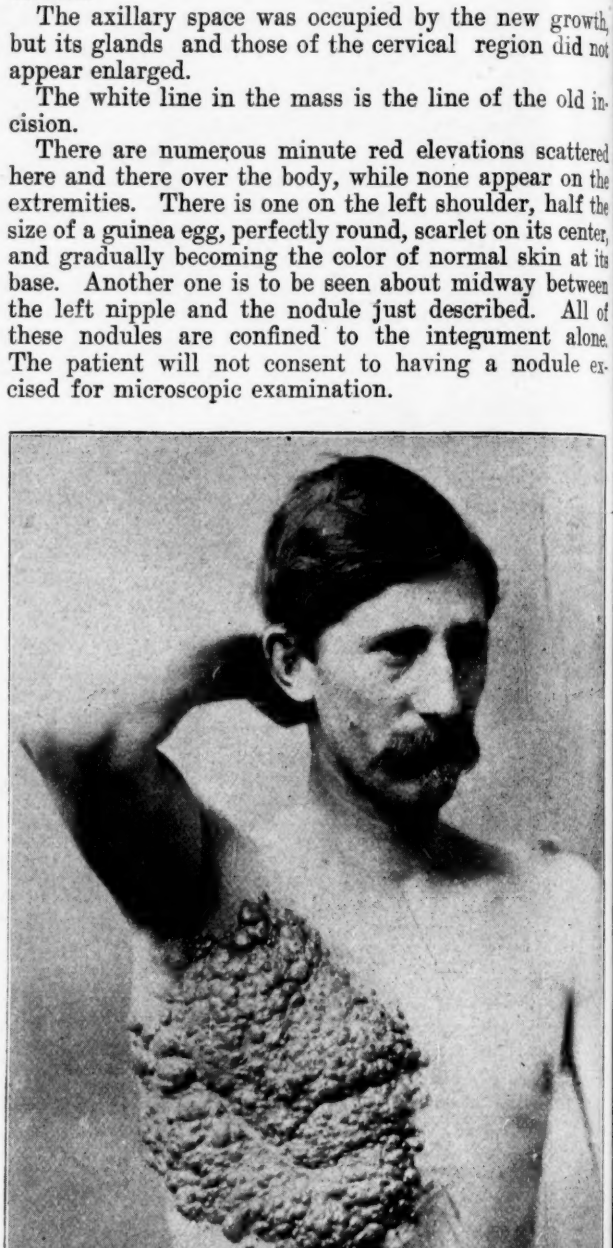
There was no recurrence until about Jan. 1, 1899, when a nodule appeared in the line of incision. Since this time the growth has rapidly encroached on the adjacent tissues until it is now about 14x18 inches, extending from the axillary space to within three inches of the umbilicus.

The growth resembles a large bunch of red grapes, the mass of nodules being elevated and red, some more so than others; a few could be taken between the fingers, thus showing how separate and distinct they were, and yet conglomerated. The entire mass was movable and did not seem to be adherent to the periosteum.

The axillary space was occupied by the new growth, but its glands and those of the cervical region did not appear enlarged.

The white line in the mass is the line of the old incision.

There are numerous minute red elevations scattered here and there over the body, while none appear on the extremities. There is one on the left shoulder, half the size of a guinea egg, perfectly round, scarlet on its center, and gradually becoming the color of normal skin at its base. Another one is to be seen about midway between the left nipple and the nodule just described. All of these nodules are confined to the integument alone. The patient will not consent to having a nodule excised for microscopic examination.



Dr. J. T. Knox invited me to see the case with him on April 12, 1899, at which time the accompanying photograph was taken. I expressed the opinion that the growth was some form of sarcoma, and that a surgical operation would be of no avail; the injection of erysipelas toxin was advised, but not accepted.

The patient insisted on being exposed to the X-ray, which was done for seven days with two daily exposures of thirty minutes each. The pain, which had required the use of various narcotics for its subjection, disappeared after the third application. There was slightly increased redness of the nodules after the fourth exposure. The top surfaces of a few of the larger and

*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

smaller nodules became atrophic and darker, while not a few had small hemorrhages into their body. On May 4, 1899, the exposures were renewed and increased in frequency and length of time for seven days more. At the end of this time the dermatitis was very much aggravated and extended about two inches beyond the margin of the new growth. The growth seemed to be checked, there being hardly any appreciable progress since my last observation. Many of the nodules had become necrotic and dry, while those of the left shoulder and chest had developed but little, if any. May 23, 1899, I found the patient ready for another exposure, which has kept up the usual irritation. The growth has made but little progress since my first observation, April 12, 1899. The patient has lost about fifteen pounds of flesh since October, 1898, and is becoming more feeble, with loss of appetite. It has not been necessary to use any narcotics, so free from pain has he been.

Dec. 9, 1899: This patient died during September, 1899, from exhaustion. The growth continued.

DISCUSSION.

DR. B. M. RICKETTS, continuing—This paper was completed about a week ago. I have since seen the patient. His physical condition is becoming very much impaired. I predict that the next three or four months, perhaps, will terminate his career. I am sorry, indeed, not to be able to present him here, and would like very much to have the matter discussed.

DR. I. N. LOVE, St. Louis, Mo.—Has a microscopic examination been made?

DR. RICKETTS—I do not know, and he would not allow me to take a nodule for examination. The man who made the examination in October has not replied to my letter.

DR. A. W. BRAYTON, Indianapolis, Ind.—This patient was at my office a few weeks ago. There was a history given of a pigmented mole which had been burned out by a "cancer doctor" in an adjoining town. Afterward, when new growths began, the whole series of nodules was very thoroughly removed by Dr. W. C. Dugan, of Louisville, Ky. When the patient came to my office some months later, new nodules were appearing on the back and over the shoulders. He wanted to visit friends in Kansas, and I told his brother that if he would start right off he would have time to make a pleasant visit, but that he could not live long. This had all the clinical features of a rapidly progressing pigmented sarcoma.

DR. CAMPBELL, Chicago—What was the result of the operation by Dr. Dugan?

DR. B. M. RICKETTS—Increase in the rapidity of formation, as is usual in that form of cancerous growth dissemination. I would like to hear from the Chairman, Dr. Ravogli, who has also seen the case. I will merely refer here to the application of the X-rays. He had seen in the daily papers about the foreigners using the X-rays, and to satisfy him, I took him for a few days. The application relieved the pain. He had not had narcotics during that time, and if it has done nothing more, even if he dies soon, the application of the X-ray is quite a revelation to me; and if it will check the pain during these circumstances I think it is a valuable aid in therapeutics.

DR. A. RAVOGLI, Cincinnati, Ohio—I find that in the case referred to, it is very difficult to establish the diagnosis, without making a microscopic examination. There is no doubt that the exposure of the tumors to the action of the X-rays has produced a great change, causing a necrosis of the centers of many of them. I believe in the action of electricity on the organic tissues. We know that the X-rays, produced at the negative pole of the current, are able to cause molecular disorganization of the living superficial tissues. The burns resulting from the exposure of the skin to the X-rays can be cited as an example. These peculiar burns take a long time for the necrotic tissues to slough off, on account of the skin being disorganized in its intimate stroma. The negative pole of the current has a peculiar disorganizing action also on the epidermic cells.

CONTAGIOSA BULLOSA.

(PEMPHIGUS CONTAGIOSUS TROPICUS, PEMPHIGUS CONTAGIOSUS, EPIDEMIC PEMPHIGUS.)*

BY JOHN S. WINDISCH M.D.

LATE CAPTAIN IN MEDICAL DEPARTMENT U. S. VOLUNTEERS.

CLEVELAND, OHIO.

During the summer months of 1898, I had ample opportunity to study this interesting disease in detail. It exists endemically in many tropical countries, especially China, where it is supposed to have originated. It is also found in our Southern States, under certain conditions which seem to favor the spread of the disease. People from northern climates are more prone to this affection than the natives, as is seen among the English people who go to dwell in southern China and India, the English families born and bred in India being less liable to it. This was also clearly demonstrated during the Spanish-American War, while the troops were encamped in our Southern States. Few cases were found among the southern troops, but when it did occur it was usually mild and in some cases the contagion could be traced to some northern regiment, while, on the other hand, few of our northern regiments escaped.

As seen by army surgeons at this time, the disease was of unusual interest, inasmuch as it had spread quite extensively before its true nature was recognized. The first case which came to my notice was that of a soldier who was a perfect picture of health, and who had served in the Queen's army in India. He had consulted many surgeons, also some of the local physicians at Tampa, Fla., in an attempt to find out what was the nature of his disease. Like many soldiers in the English army in India, he had at one time a venereal sore, and was very much alarmed lest his condition be syphilis. I recognized the affection as impetigo, and after a thorough examination and investigation, found his messmate, who used the same towel, afflicted with a similar trouble. I compared the diseases, found them identical, and made a diagnosis of impetigo contagiosa bullosa. I confirmed this diagnosis by rupturing one of the vesicles and applying the secretion to an unaffected part of the patient's body, and the initial lesion presented itself in from eight to twenty-four hours. During the summer I saw several hundred cases, and at times was told by the soldiers that they noticed the rash break out wherever the discharge came in contact.

Symptomatology.—The eruption occurs in the form of isolated vesicles, vesico-pustules, pustules or bullæ, usually about the face, axillæ, groins, also on the neck, buttocks, hands and feet. The disease begins with one or more small reddish spots, which vary from the size of a pinhead to a split pea. In the more severe cases these lesions were surrounded by a distinct areola. The initial lesion developed in from twelve to thirty-six hours, and was soon followed by other similar lesions. In another twelve or twenty-four hours the epidermis became slightly raised, and in some the areola more distinct. A clear serous fluid now presented itself. These vesicles which had formed extended at the periphery, until they attained a size varying from that of a split pea to that of a silver quarter, in some cases being even larger. The epidermic covering of the vesicles was very thin and easily ruptured, so that many were ruptured by the clothing or by the use of a handkerchief on the face. When these were not ruptured, the clear

*Presented to the Section on Cutaneous Medicine and Surgery, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899

contents became opaline in from forty-eight to seventy-two hours. The lower part of the vesicle was first affected, and gradually the yellow color extended upward. This process extended over a period of twelve or twenty-four hours, but seldom did the entire contents become purulent. The vesicles occasionally coalesced. In only a very few cases did I see the eruption extend into the hair of the scalp, while the beard was frequently the seat of the disease.

The bleb arose from the sound skin in most cases and, as stated above, only the severer forms were surrounded by an areola. The vesicles were at first fully distended, but when they reached the purulent stage they were flaccid, and when the patient was in an upright position the blebs hung dependent, like a partially filled bladder from its pedicle. When the blebs were ruptured they immediately collapsed, leaving little tents containing a serous or seropurulent fluid. When the epidermis was removed, the under surface appeared moist, reddish and glazed, which later became covered with a crust or scab varying in thickness from a thin friable tissue-paper-like scale to a thick yellowish impetiginous crust. In some cases slight pigmentation followed the falling off of the scab, which finally disappeared. No scars followed unless considerable irritation resulted from some unusual cause. There was little itching and in some cases it was entirely absent. There was no fever which could be attributed to this disease; it attacked old or young, the robust as well as the feeble, running its course in two to four weeks. In only two cases did I see any involvement of the mucous membrane, in both cases the mucous lining of the mouth being affected, the disease having spread from the angle of the mouth. There was no involvement of the lymphatic glands. Debilitated subjects were more prone to the disease than the healthy; although the robust were not exempt. Excessive perspiration favored its development and spread, and the parts which perspired most were more often affected, as the face, neck, axillæ and groins.

The disease spread more rapidly after the rainy season had set in, not that I think the wet weather was the cause of this, but because the soldiers could not bathe as freely as before, and their clothes were always wet and dirty from lying in the sand and trenches. While they bathed freely, they were obliged, from the want of clothing, to wear the same soiled, sour-smelling underwear, which helped the spread of the disease. In many cases soldiers used towels belonging to others, and in that way I was able to trace the contagion many times. The disease was also spread in blankets, as these articles were frequently accidentally exchanged. That this affection was inoculable and autoinoculable was very clearly demonstrated in many cases. It was beautifully demonstrated by one soldier who reinoculated himself repeatedly; also when one in a mess was afflicted, there usually appeared a second, sometimes a third or fourth in the same mess.

Regarding the etiology and pathology I can say but little, as the facilities and opportunities of field service are not such as to afford the surgeon the opportunity of going into extensive detail in many of his cases. The microscope and other bacteriologic appliances were sadly missed. That the disease is caused by some local agency can hardly be doubted, but neither microscope nor cultural tests have succeeded in proving any specific organism.

I have seen many cases in connection with vaccination, and as all soldiers were vaccinated, I am unable to say whether vaccination has anything to do with it. Some of my worst cases were cases in which the vaccin virus was without effect, on the other hand, soldiers who suffered most from the effects of vaccination were free from the disease or only affected to a very mild degree. That it follows vaccination, I will not attempt to argue, as all my cases appeared after all the soldiers had been vaccinated. The eruption was very often seen during the convalescence from a more or less actively contagious disease. I have come to the conclusion that this disease is an acute specific contagious exanthem.

The diagnosis in most of my cases was comparatively easy, while some of the milder cases were indeed difficult. You are confronted with such diseases as impetigo simplex, pustular eczema, varicella, in the early stages by variola, pemphigus and herpes.

The treatment is chiefly local. Mercury acts like a specific, either in the form of an ointment or a mild, soothing antiseptic wash. Boric acid, carbolic acid and ichthyol are also quite beneficial. My patients were relieved from duty and kept in large airy tents, which, even during the extreme heat of the day, were quite cool and prevented excessive perspiration. Each soldier was ordered to bathe once or twice a day, all blebs were opened, the exudate expressed and washed with a solution of bichlorid 1/1000; after that the unguentum hydrargyri ammoniati was freely applied, and a decided change was noted in twenty-four hours. Unfortunately our supply of white precipitate ointment became exhausted, and, being unable to get more at the time, I resorted to the citrin ointment, 3i to ℥i. The simple unguentum hydrargyri was also used in case of emergency, but the best results were obtained from the white precipitate and citrin ointments. General tonics are indicated when the patient is in a state of debility, and plenty of fresh air and bathing are essential.

627½ Lorain Street.

FORMALDEHYDE DISINFECTION.*

BY W. K. JAQUES, M.D.

CHICAGO.

In formaldehyde we have a most valuable agent with which to control and destroy infectious germs, but the properties of this gas and its effects on living cells must be understood to apply it within its limitations. It is a well-known fact that, even in small quantities, it has a peculiar effect on fibrin, hardening and otherwise changing its physical properties. A small amount added to egg albumin or blood serum so changes them that they will not coagulate on heating. To the power of this gas to penetrate the cell wall of bacteria and alter its properties are we indebted for its germicidal qualities.

The destructive power of many pathogenic germs depends on their ability to multiply rapidly and overwhelm their host before resisting forces can be brought to bear. But it is a universal law of Nature that things of rapid growth are also of delicate structure, and therefore the cell wall of the rapidly multiplying bacteria is thin and easily penetrated by formaldehyde gas. The use of this gas at once suggests itself to retard the growth or destroy invading germs when they attack the respiratory tract. This can be done to advantage in those cases where the germ remains on the surface and is accessible to the gas. In bronchitis and slowly developing pneu-

*Presented to the Section on State Medicine, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

monia, especially in children, the growth of germs may be retarded and the remainder of the respiratory tract made unsuitable for invasion. Such a condition means speedy recovery of the patient. It is not possible for the safety of the patient to use the gas strong enough to penetrate diphtheria membrane and destroy the bacilli. It might be of value in limiting the disease if we did not possess a specific in diphtheria antitoxin. We can expect nothing in phthisis pulmonalis, because of the conditions to be overcome. In the tubercle bacillus we find a germ possessing strong resisting powers. It is a slow growth and has a horny outer capsule, containing spores protected by spore membrane. In addition to this the germ soon surrounds itself with an area of coagulative necrosis or inflammatory products. Any agent which would penetrate the inflamed area, then the coagulative necrosis and the resisting outer capsule would destroy the tissues in which the bacilli are found.

As soon as the valuable disinfecting properties of formaldehyde gas were known the Chicago Health Department became interested in it. The principle of its production was simply the burning of wood alcohol in contact with platinum, and many were the lamps of various sizes and prices which were tested. The cost of the platinum which was used in the construction of the chimneys made the lamps expensive, and the amount of formaldehyde gas given off was uncertain. After testing almost every apparatus that was put on the market for two years, the department found that the most satisfactory source from which to obtain the gas was from the 40 per cent. solution that is on the market. While looking for the cheapest source from which to obtain this, one of the largest chemical works in the country volunteered the information that there were only three places in the world where it was manufactured, and this was because of the large outlay required to produce it economically.

When this 40 per cent. solution of formaldehyde gas is quickly evaporated there is left in the retort a white waxy substance called paraform. This slowly unites with the air and again produces formaldehyde gas. For disinfecting purposes it is important to quickly cause the gas to leave the solution and impregnate the air of the room. To do this the globules of the solution should be as finely divided as possible, so that all parts will come in contact with the air. This is accomplished by throwing a fine spray of the solution on a suspended sheet. Care should be taken to do this so the edges of the drops do not touch each other, for if the sheet is wet the solution evaporates slowly and produces paraform instead of passing directly into the air as formaldehyde gas.

Cleanliness is the first and best half of disinfection. Malignancy in contagious diseases may be largely increased by the environment of the patients. The cholera germ only takes on virulence in the presence of decomposing filth. The tubercle bacillus is but the parasitic form of a pleomorphic mould, and can only exist where vital resistance is low and there is a suitable soil for its growth. Diphtheria is a poor man's disease, and its most malignant form is seen in an atmosphere of poverty. But clean poverty is a blessing compared to dirty comfort. The workingman's home in large cities is often filled with cheap rugs, plush furniture, curtains, and other department store trash that, during an illness of a contagious nature, become loaded with disease germs. Such a home is a menace to any neighborhood, and one of the important duties of a health department is to remove these plague spots.

The ideal disinfectant must be one that can be used by an average disinfector without causing complaint and injury to property. In formalin we have a disinfectant that will do the work in the shortest possible time, and it does not subject tenants to much inconvenience. The quarters of the poor in the cities are often so crowded that the giving up of a room for a day or even a few hours in cold weather may be a hardship. The destruction of the contagious element as near its source of production as possible should be our object. Receiving the discharges on cloths moistened with a weak formalin solution, and the disinfection of all infected articles as soon as the patient has been removed, is the best safeguard we have at present.

For use in the sick room the simplest and most effective way is to put two tablespoonfuls of the formalin into an earthen dish and pour into this a pint of boiling water. This dish may then be placed over a lamp or chafing-dish and kept below the boiling point. Near this point the gas is driven off in the greatest abundance. Above this evaporation takes place, with the production of paraform. By modifying the heat the amount of gas in the room can be controlled. It should be kept just below the point of irritation. As the patient becomes accustomed to its presence it becomes less irritating. It does not interfere with other remedies and can be used when the patient is asleep.

The advantages of formaldehyde disinfection over all other methods are numerous. Although a destroyer of odors, it has scarcely any odor. It does not attack and injure metals, as does sulphur, and there is no danger from fire. It attacks the weakest point of our pathogenic enemies' armor. It is not, however, a destroyer of lice, bedbugs, and other vermin. Neither will it injure the parasites that infest plant life. It can only be depended on to destroy pathogenic germs whose structure permits sufficient penetration to alter their protoplasm, and for this purpose it has no equal as a disinfectant.

DEMONSTRATION.

I have had a small model of a room made to illustrate the method of disinfection used by the Chicago Health Department. This room contains twenty-seven cubic feet. Our rule is to use five minims to the cubic foot of space, so that 135 minims ought to disinfect this. This model room is for the purpose of making the following experiment in your presence:

At the top and bottom of this small room will be placed a box and tube of culture-medium inoculated with typhoid bacilli, streptococcus pyogenes and Klebs-Loeffler bacilli. A small sheet will be suspended across the room, sprayed with 135 minims of formalin, and the room closed for twelve hours. We will then test the fumigation by placing these cultures in an incubator for twenty-four hours. The inoculated culture-boxes will show surface disinfection, while the test-tubes will show the power of penetration.

I also call attention to my method of impregnating a room with formaldehyde gas. I have taken an ordinary fifteen-cent night lamp—kerosene—and had a stiff wire bent so as to support a dish over the chimney. To the formalin placed in this dish is added boiling water, and the whole kept just below the boiling point by regulating the flame. In the absence of such a lamp a chafing-dish may be used, or, if there is a stove in the room, a dish may be placed on the back of it,where the solution will not boil. It is only necessary to keep in mind the principle that formalin must be kept at the proper temperature in order to secure the best effects from the evaporation of formaldehyde.

4316 Greenwood Avenue.

DISCUSSION.

DR. BEEM—This is the room that has been constructed by Dr. Jaques for the purpose of demonstrating the method of disinfection as performed by the Chicago Health Department (showing model). The rubber material over the outside is probably somewhat pervious to the gas, and part of it escapes during the time of the disinfection, but cultures have been placed in the room to determine the force of the disinfection. They are placed at various points. The disinfection simply consists in stretching a clothes-line across the room at any suitable place, usually as near the center of the room as possible; then on that clothes-line suspending a sheet by its edge. For every 1000 cubic feet, we will say one bed sheet, and on that sheet we sprinkle 150 c.c. of the formaldehyde solution, or five ounces, by means of a proper sprinkler. I show you the sprinkler we are using at the present time. It simply consists of an atomizer, and the tube is arranged so that not too much formaldehyde gets out at a time. Then all the clothes in the room are hung out on the clothes-line, beds are opened up, and books opened and stood on their edges, so that the formaldehyde comes in contact with every part of the material. Then the rooms are allowed to remain closed for five hours. At the end of that time we find that all the germs in the room have been practically killed. This has been demonstrated several times to the entire satisfaction of the bacteriologist of the department, as well as myself. (Dr. Beem here showed tubes of cultures of diphtheria and typhoid.)

In the six hours which we generally take for practical house disinfection, the growth is very materially delayed. Even after seventy-two hours of incubation there is very slight growth. We have also tried the germ of scarlet fever, which has recently been discovered, and we find that it has been destroyed in about the same length of time. The test-tubes which have been exposed show the penetrating power of the gas. It is claimed by a great many that the gas does not penetrate into small crevices. (He then indicated on diphtheria tubes, how far the gas had penetrated, under different conditions. He found that diphtheria is very easily killed.)

The tubes shown were from actual disinfections of houses, so the work was not done for any experimental purposes especially, but the disinfectors were given the culture-tubes to expose in the rooms of houses they disinfected. The cryptococcus was found harder to destroy than any of the other germs referred to, and the penetration was not as far as in the other tubes. (He then illustrated, by the tubes, the comparative difference of the killing power of the formaldehyde gas in staphylococcus and cryptococcus, the latter showing the greater resisting power.) These were exposed seven hours. Continuing, he said that there is no method at the present time which he considers equal to this one in formaldehyde disinfection, as practiced by the Chicago Health Department. The simplicity of the method presents itself at once.

A MEMBER—What about the bedding, the bed-clothes, and the mattress?

DR. BEEM—The bed-clothes are suspended over doors; just take them and hang them over the backs of chairs, in order to expose them as freely as possible.

A MEMBER—And it destroys all growths?

DR. BEEM—It destroys all growths.

A MEMBER—What about the mattress?

DR. BEEM—The mattress we leave on the bed, just on the springs, just as it is. We suspend the sheet over the mattress as near as possible. At the present time there are a great many generators on the market for the formation of formaldehyde, which is a gas absorbed by water. The water will hold about 39.67 of the gas, or, in other words, make a 40 per cent. solution. That should be the purity of the commercial article. In the generators the water boils off very quickly, leaving a concentrated solution. This concentrated solution forms a white substance in the bottom of the generator, called paraform. That paraform forms trioxid methyoln, which is then passed into the room in that form, a substance having very little disinfecting qualities but a great deal of stink, as they say. To obviate this the operators at the present time use methyl alcohol; they also add neutral salts; common table salt, or calcium chlorid is more often used.

POLIOMYELITIS ANTERIOR ACUTA ADULTORUM.*

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Poliomyelitis anterior acuta adultorum is a disease which, although it has been described many years ago, at first by M. Meyers, and later by Gumboldt in 1873, and by Shultz in 1878, is of extreme rarity, and on account of the difficulty of differential diagnosis is of sufficient interest to place two well-marked cases on record.

Rand was able to collect only thirty-six cases in the adult, and in a period of ten years since I have been interested in nervous diseases, I have had an opportunity of observing but two. On account of the newer views of the pathology of poliomyelitis, and especially on account of the difficult differential diagnosis and the unusual prominence and the sharp definition of newer diseases, such as peripheral neuritis, many cases of which were formerly grouped under poliomyelitis, it is of especial interest to place on record two cases which are beyond dispute.

In 1897, when Bruns and Windschild wrote an article on this form of poliomyelitis, for the "Twentieth Century Practice," they said: "We must admit, however, that there exists in the adult a disease which is wholly analogous to infantile spinal paralysis. This poliomyelitis adultorum is, however, in itself, and especially in comparison with infantile paralysis, a very rare disease."

CASE 1.—Edward B., aged 28, unmarried, has previously been perfectly well. His mother died of tuberculosis, and he has one sister who is deformed as a result of caries of the spinal column; a step-brother, child of the second wife, shows marked imbecility closely resembling cretinism. The patient himself denies having ever had any venereal diseases, especially syphilis.

On April 1, 1895, while rapidly walking from his residence to the railway station, a distance of probably a thousand feet, the patient noticed, as he stepped on the platform of the station, that his left leg was growing weak, and the moment he stepped on the rear platform of the car he fell to the floor and had to be assisted to a chair. He had no pain nor any other abnormal sensation. Arriving at the city station he found that he could not use his left leg, except with great difficulty. Calling a cab he rode about town, attending to his business, but when he returned home at night he had to be carried from the train on account of the involvement of his right leg. On the next day he was without fever, but was unable to leave his bed.

Dr. F. W. Langdon, who was with him the day after the onset of the paralysis, states that both arms were affected, but the patient was still able to make some movement with his hands and fingers; both legs were completely paralyzed. He reports that the sensation of both arms and legs and all its qualities were perfectly normal.

I saw the patient the next day, i. e., forty-eight hours after the onset of the paralysis, when there was present a complete motor paralysis of all four extremities, together with the muscles of the neck, so the patient was unable to raise his head from the pillow or move it from side to side without the assistance of the nurse.

Examination.—Intelligence seemed normal; the pu-

*Presented to the Section on Neurology and Medical Jurisprudence, at the Fiftieth Annual Meeting of the American Medical Association, held at Columbus, Ohio, June 6-9, 1899.

pils equal in size, and they reacted both to light and accommodation. The papillæ were normal, and there was no defect in the movements of all external of the muscles of the eyeballs. The muscles of the face were normal. The tongue protruded in the median line; the soft palate was normal. Sensation of the scalp and face was normal on both sides. There was no loss of the sense of smell or taste, but complete absence of all voluntary movements of the muscles of the neck; the patient was unable to turn his head from side to side or raise it from the pillow. The muscular movements of both the right and left arm were reduced to a slight movement of the fingers; he was unable to raise the arm from the bed or to flex the arm on the forearm; and could not use the pectoral muscles nor shrug the shoulders nor lift them.

There was no tenderness of the nerve trunks; no hyperesthesia thereof, nor any diminution or loss of sensation in any of its qualities. The lower extremities were absolutely immovable and there was the same complete absence of tenderness on pressure over the nerve trunks or of any disturbance of sensation. The appetite was good and there was no disturbance of the action of any of the sphincters, nor loss of sexual desire or the power of erection.

The electric examination, one week later, showed a complete loss of all faradic irritability, both direct and indirect. The galvanic reaction through the nerve trunks was absent in all of them, with the sole exception of the right ulnar nerve. The direct response of the muscles was weak and slow. In a word, there was a complete reaction of degeneration in all the muscles of the body, including the neck.

The return of muscular power began to take place after the first week. The patient was soon able to move his legs, arms and head, but the movements were characterized by great weakness, and it was only in the third week that he was able to use the muscles of his right thigh at all. After this there was a steady progress, the patient gradually gaining control of most of his muscles. After three months he was able to walk, with the assistance of a nurse. There was great wasting of the muscles, and the patient's weight was reduced to 106 pounds.

Treatment.—Ergotin was used for the first three days, two weeks after that small doses of iodid and bichlorid of mercury for three weeks; after the third week massage and general faradization. Massage and electric treatment were kept up for two years. After this period there still remained some general weakness, especially marked in the quadriceps femoris.

Examination, June 1, 1899.—Four years after the attack there is present a normal electric reaction of all the muscles of the body as well as their nerve trunks, with the exception of the left ulnar nerve, which does not respond normally to the galvanic current, although the muscles supplied by the ulnar nerve are prompt in their reaction. The volume of muscular strength has never returned to its normal condition. All of the muscles both of the upper and lower extremities are weaker than they were before the attack, but the patient walks without an effort, on the level, but has some difficulty in climbing steps. The muscles have not returned to their normal size. This is especially true of the legs. The patient thinks, however, that he has fully recovered.

CASE 2.—John R., aged 48 years, a native of Ireland, and keeper of a lunch stand, was admitted Jan. 8, 1899, to the neurologic service of the city hospital. He was discharged May 2, 1899, improved. The family history showed that his father and mother, also two brothers were dead, the causes unknown. One sister was living and well. He had the ordinary diseases of childhood, malaria, piles for the past eighteen years, but no drug habits, and no syphilis. He had been perfectly well up to within one month, when he was attacked with diarrhea which weakened him very much, and during the course of this he lost seven pounds in weight. One week before admitted to the hospital, he noticed a weakness in the left leg, on rising in the morning, and this increased during the day. The right leg became involved on the following day and on the third he was confined to his bed, unable to walk; at the same time his arms became paralyzed, and at the end of a week, on admission to the hospital, he was perfectly helpless. He said that he had a chill and a high fever, but that disappeared on the third day. He had no pain at any time, no hyperesthesia or abnormal sensation of any kind, no headache, no dizziness, and the sphincters were normal.

Examination.—His mental condition was normal, memory good, and the pupils reacted to both light and accommodation. All regions supplied by the cranial nerve were normal. There was a slight nasal intonation of the voice, but no difficulty in swallowing and no paralysis of the soft palate. He was unable to move the head from side to side or raise it from the pillow. There was no voluntary action of any of the muscles of the neck, but absolute loss of all muscular power of the muscles of the upper and lower extremities. He was unable to move either arm or either leg, and there remained only a slight movement of the fingers. There was no hyperesthesia of the skin, no tenderness over the nerve trunks, no loss of sensation, no abnormal subjective sensation. There was an absence of all reflexes excepting those of the skin, pectoral muscles and all of the back, which were also paralyzed. The patient was able to flex the fingers and flex and extend the toes. Sexual functions were normal, and there was no involvement of the sphincters of the bladder or rectum. No evidence of syphilis could be found in any part of the body. Sensation in all its qualities, heat, cold, pain, and touch remained normal.

The electric examination showed an almost complete reaction of degeneration in all muscles of the body. (For details, see chart.) The urine showed a small quantity of albumin.

Treatment.—This consisted of 1-3 gr. of bichlorid of mercury every second day, and 1-60 gr. of sulphate of strychnin every four hours, together with a hot bath every afternoon at 4 o'clock. The patient began to improve almost at once. In twenty-four hours he was able to move the arms, flex the forearm on the arm, and after forty-eight hours could raise the arm from the bed, and move the legs. The improvement continued, and at the end of the first week he was able to raise the head from the pillow, and on the tenth day could walk with the assistance of the nurse. In three weeks he was able to walk alone, with ease, and could use all the muscles of the body, but the movements were characterized by great weakness. The electric irritability began to return after six or eight weeks.

Examination, May 1, 1899.—The results with the faradic current, under Dr. Hoppe, showed both pectorals negative; the median nerve reaction was present but very small: the musculospiral absent on both. The median nerve responded better on the left than the right. Muscular response was also better on the left. The faradic response returned to all the muscles of the

HEAD and UPPER LIMB.		Right. F	Right. G Qnt.	Right. G Qlt.	Left. F	Left. G Qnt.	Left. G Qlt.
Facial	Orbicularis palpebrarum			+			+
	Lower facial muscles			+			+
Spinal Accessory	Palatal muscles						
	Laryngeal „						
Do. with II & III Cerv.	Sterno-mastoid	o		−	−		−
	Trapezius	o		−	o		−
Hypoglossal	Lingual muscles			+			+
Do. with II & III Cerv.	Sterno-thyroid	+		−	+		−
	Sterno-hyoid	+		−	+		−
II Cerv.	Complexus						
	Splenius						
III Cerv.	Lev. angull scapulæ	+			+		
V Cerv.	Rhomboids	o			o		
Post Thoracic	Serratus magnus	o			o		
Supra scapular	Supra-spinatus	o			o		
	Infra-spinatus	o			o		
Ext. ant. thoracic	Pectoralis Major Upp. part	o		−	o		
Int. ant. thoracic	Pectoralis Major Low. part	o		−	o		
	„ Minor						
Musculo cutaneous	Coraco-brachialis	o		−	o		
	Biceps	o		−	o		
	Brachialis anticus	o		−	o		
Subscapular	Subscapularis			−			
	Teres Major			−			
	Latiss. Dorsi	o		−	o		
Circumflex	Deltoid	o		−	o		
	Teres Minor	o		−	o		
Musculo spiral	Triceps	o		+	o		
	Ext. Carp. Rad. Long.	−		−	−		
	Supinator Long.	o		−	o		
Post interosseous	Supinator Brevis	o		+	o		
	Ext. Carp. Rad. Brev.	o		+	o		
	Ext. Carp. Uln.	o		+	o		
	Ext. Comm. Digit.	−		+	−		
	Ext. ossis metac. poll.	o		−	o		
	Ext. primi. intern „	−		+	−		
	Ext. secund. „ „	−		+	−		
	Ext. indicis	o		+	o		
	Ext. minimi digiti	−		+	−		
Median	Pronator radii teres	o		−	o		
	Palmaris longus.	−		−	−		
	Opponens pollicis	o		−	−		
	Abductor pollicis	−		−	−		
Median & Ulnar (jointly)	Flexor longus pollicis	o		−	o		
	Flexor carpi radialis	−		−	−		
	Flexor sublim. digit.	−		−	−		
	Flexor brevis pollicis	−		−	−		
Ulnar	Flexor carpi ulnaris	−		−	−		
	Adductor pollicis	−		−	−		
	Muscles of little finger	−		−	−		
	Interossei	−		−	−		

TRUNK and LOWER LIMB.		Right. F	Right. G Qnt.	Right. G Qlt.	Left. F	Left. G Qnt.	Left. G Qlt.
Intercostals	Intercostals			−			
	Rectus Abdominis	o		−	o		
	External oblique	o		−	o		
Branches of Lumbar Nerves	Erector Spinæ	−		+	−		
	Quadratus Lumborum			+			
Genito-crural	Cremaster			+			
Anterior Crural	Sartorius	o		−	o		
	Pectineus			−			
	Rectus femoris	−		+	−		
	Vastus externus	o		+	o		
	Vastus internus	o		+	o		
	Crureus	o		+			
Obturator	Gracilis			+			
	Adductor longus	o		+	o		
	Adductor brevis	o		+	o		
	Adductor magnus (with sciatic)	o		+	o		
Small Sciatic	Gluteus Maximus	−		+	o		
Sup. gluteal	Gluteus Medius	−		+	o		
	Tens. vag femoris			−			
Great Sciatic	Biceps femoris	o			o		
	Semitendinosus	o			o		
	Semimembranosus	o			o		
	Adductor magnus (with obturator)	o			o		
Int. popliteal	Gastrocnemius	o		−	o		
	Soleus	o		−	o		
	Tibialis posticus	o		−	o		
	Flex. comm. digit.	o		−	o		
	Flex. long hallucis	o		−	o		
Plantars	Flex. brev. hallucis	o		−			
	Flex. brev. digit.	o		−			
	Abductor hallucis			−			
	Adductor hallucis			−			
	Ext. brevis digit			−			
	Interossei			−			
Ext. popliteal	Tibialis anticus	o		−	o		
	Ext. prop. hallucis			−			
	Ext. digit. longus			−			
	Peroneus longus			+			
	Peroneus brevis			−			

upper extremities. The anterior nerve reaction was absent on the left. The anterior crural muscles were very slightly active. The anterior crural nerve reaction on the right was absent, but the anterior crural muscular response present, though diminished. Reaction of the left tibial was present, also the right, but absent in the left and right post-tibial; the muscular response also. The reaction was absent from the muscles of the calves. Atrophy of the muscles was still present, very few having returned to normal, the sternocleidomastoid being an exception. The response was more marked on the ulnar surface on the right than on the left, also in the small muscles of the right hand. There was well marked atrophy of the anterior surfaces of both thighs, especially in the quadriceps femoris.

In calling the attention of this Section to these cases of acute poliomyelitis anterior adultorum, I am convinced of the fact that I am not presenting anything new. I feel, however, that two such sharply-defined and well-marked cases as the above should be placed on record, especially as it is more than probable that some of the earlier cases were confounded with peripheral neuritis or disseminated acute myelitis.

These cases are also interesting on account of the extent of the paralysis, all four extremities together with the muscles of the neck being involved. In the tables of cases collected by Duchenne and Seelegmiller, in children, one extremity alone was affected in more than 50 per cent. of cases, whereas the four extremities were affected in only 2 per cent.

Pathological Anatomy.—A change has taken place in our ideas of the pathologic anatomy of acute anterior poliomyelitis. Our first knowledge was based on the researches of Cornil and Lockhart Clark. In 1870 Charcot and Joffroy were the first to make known more generally to the medical world the relation between the disappearance of the ganglionic cells of the anterior horns and the flaccid atrophic muscular paralysis, and they formulate the law that the disease consists of a primary acute inflammation of these ganglionic cells and not of an acute inflammatory softening of the interstitial tissue or of a hemorrhage, and that all other

changes were secondary to the destruction of the ganglionic cells. It was very easy to take the next step and attribute all the diseases of the motor system, characterized by a flaccid atrophy of the muscles, into three groups and attribute them to an acute, subacute and chronic inflammation of these ganglionic cells.

We know how this erroneous doctrine jumbled together acute anterior poliomyelitis, peripheral neuritis —which was looked on as subacute anterior poliomyelitis —and chronic progressive spinal muscular atrophy, and taught us to look on them as of a common pathologic origin, the clinical difference being due to a difference in the degree of inflammation. This opinion was accepted universally, and still holds sway among the rank and file of the medical profession, although it has been overthrown as long ago as 1883, by the researches of Archambault and Damaschino, who showed that it was not a primary disease of the ganglionic cells but an interstitial myelitis of the anterior horns, vascular in its origin. This has been confirmed by the more recent researches of Schultze, P. Marie, Goldscheider, Siemerling and Redlick.

We to-day know that acute anterior poliomyelitis exists as a disease *sui generis;* that it is a distinct disease, the result of an infection, which has for its pathologic seat of predilection the gray matter of the anterior horns, and that the infectious material is carried to the horns by way of the central spinal artery. It is primarily a disease or an inflammation whose seat is the gray matter of the spinal cord.

An exudation of serum and leucocytes takes place around the small vessels, arteries, and capillaries. The ganglionic cells are affected secondarily, by the chemical action of the pathologic serum or by pressure resulting from the exudation of the inflammatory material. This inflammatory exudation is not limited to the gray matter of the anterior horns, but there is very frequently an inflammation with an exudation of the pia mater and the white matter of the anterior column at the point of entrance of the vessels which are the carriers of all the infectious agent.

If this view is correct, then all the apparent cases of acute anterior poliomyelitis following a previous acute infectious disease, such as measles, scarlet fever, typhoid fever and gonorrhea are not acute anterior poliomyelitis in the strict sense of the word, but a focal or disseminated myelitis. The distinction which I make will be readily understood. The seat of the inflammation is the same, whereas the disease in its etiology is radically different. Just why the central spinal artery should be the seat of predilection for the disease can no more be explained than the same phenomena in other acute infectious diseases.

These views are radically different, at least in the adult, from that expressed by Bruns and Windschild, who state that poliomyelitis adultorum is almost always seen as a complication of a sequel to acute infectious diseases. The two cases above recorded show that it may occur as a primary affection. The agent at work in producing the disease is not known. All the other causes, like over-exertion, heavy colds, exposure and traumatism are, in my estimation, only predisposing causes. This fact is further borne out in Rank's statistics—in twenty-five out of thirty-six cases, no other cause could be attributed than exposure to cold.

Symptomatology.—There is no need to dwell on the clinical symptoms of acute anterior poliomyelitis. They are the same in the adult as in children. The unusual feature about both of these cases was that the entire body, from the angle of the jaw down—i. e., in the neck, upper and lower extremities—was completely paralyzed; the other feature was the absence of pain, and all other sensory disturbances.

Authors have called attention to the fact that pains may be present in the nature of shooting pains, or of tenderness over the nerve trunks. I believe that such are not pure cases of anterior poliomyelitis, but rather, either focal myelitis or multiple neuritis. Another feature that bears out the newer pathology views is that the ganglionic cells are affected secondarily, which in the primary diseases is borne out by the history of the first case, in which improvement in the muscular tone and power continued four years after the first onset of the disease. This ought to have an important bearing on our methods and manner of treatment; therefore no matter how small the improvement and how slowly it takes place, we are not to despair, but should continue to treat the case for two or three years.

Differential Diagnosis.—The question may arise, on account of the wide distribution of the paralysis, the involvement of the muscles of the neck as well as all four extremities, as to whether or not these two cases have been properly classified. There is no difficulty in ruling out multiple neuritis, on account of the absence of all sensory disturbances and of tenderness of the nerve trunks. Cervical myelitis can be ruled out by the absence of sensory symptoms and absence of involvement of the bladder and rectum. The progressive involvement from the lower extremities to the muscles of the neck would also render this untenable. The same reasons would hold for hematomyelia cervicalis. Landouzy and Dejerine have described what they termed "acute curable atrophic paralysis," in which, without much general disturbance, there is an equally distributed paralysis of all four extremities, rapid in its onset, wasting of muscles and reaction of degeneration. The cranial nerves are intact, there is no sensory disturbance and the sphincters are normal in their action. Recovery is perfect. It is generally held, a view which is clearly proven by the above symptomatology, that the above is only a modification of anterior poliomyelitis, and although both of our cases resemble the above very much, there is no need of quibbling about terms. The greatest difficulty encountered in both cases was the ruling out of Landry's paralysis, and it was not possible to do this with certainty for the first week or ten days. In this latter, of which I have seen but one case which ended fatally, the paralysis begins in the feet and extends upward, so as to involve the four extremities, muscles of the neck and, in fatal cases the medulla oblongata, and causes death by paralysis of the respiratory or cardiac centers; while the motor system is mainly involved, there may be sensory disturbances. The paralysis is of the flaccid variety, the sphincters are intact, even the involvement of the medulla with difficulty of breathing and deglutition does not afford positive evidence in favor of Landry's paralysis, for in acute anterior poliomyelitis the centers in the medulla may likewise be involved—Oppenheim, Goldscheider, etc. If the case does not end fatally within the first ten days or two weeks, the differential diagnosis, according to the original article of Landry's, is easy, for in his paralysis there is neither atrophy of the muscles, nor any reaction of degeneration. The observations of Landry were confirmed by Kussmaul, by Pelgimo, Levi, who reported the case of Cuvier, by Bernhardt and Westphal. The latter laid down the law that three factors are essential for the diagnosis of Landry's par-

alysis: 1. The ascending course of the paralysis, ending fatally. 2. Normal electric reaction of the paralyzed muscles. 3. Absence of all pathologic changes at the post-mortem examination. If we held strictly to these conditions, there would be no difficulty about the differential diagnosis, but the views have changed very much since then. Cases have been described in which the course of the paralysis has been a descending instead of an ascending one. Changes have been found in the electric reaction from a slight diminution in the quantity to a complete reaction of degeneration, although it is true that cases have been observed which existed for a month without showing any atrophy of the muscles, or changes in the electric reaction. Goldscheider vigorously opposes those who hold that cases which show these degeneration changes should not be classed with Landry's disease, but even goes farther and, basing his opinion on published cases and some of his own, states that we can have all degrees of change from a slight diminution to a complete loss of sensation, and in addition we may have atrophy of muscles and loss of function of the sphincters. With this state of affairs, we have a feeling of relief, when Goldscheider states that very many of the numerous cases reported must be looked on as doubtful.

Many pathologic changes have been found in recent cases since researches are made with better methods and with greater care; so that pathologically, Goldscheider, Oppenheim and others divide the cases into two groups: those in which there is a central inflammatory or hemorrhagic disturbance throughout the entire gray matter of the spinal cord and medulla, and cases which should properly be classed as acute peripheral neuritis. From all this we must conclude that, while Landry's disease may and does exist as a clinical entity, i. e., as an acute ascending paralysis; it has no distinct or individual pathologic basis. In anterior poliomyelitis in which there is an involvement of only one or even two extremities, there will be no difficulty in differentiating the condition from Landry's disease, but in cases like the two recorded in this paper, it seems to me that we have but one point to go by, the absence of sensory disturbances, either subjective or objective, in acute anterior poliomyelitis, and its presence in Landry's paralysis. In all other respects the two diseases may be identical.

DISCUSSION.

DR. F. W. LANGDON, Cincinnati, Ohio—It was my privilege to see the first of the two cases reported by Dr. Hoppe. There are one or two points in connection with that first case which have impressed me in thinking over the matter, since a short talk with Dr. Hoppe a few days ago. One is in respect to the young man; I was called to see him when I was just on the eve of a trip abroad, and recognized the condition as an unusually typical one of poliomyelitis. The history impressed me as of considerable interest. The evening before, as I recall it, he had gone to a restaurant, and eaten a large beefsteak, immediately after which he went to a gymnasium and took a cold shower-bath. He then spent the evening with some friends in the city. The onset, twelve hours later, of weakness in the leg, followed rapidly by paralysis of the whole body, was suggestive to me of a possible connection between arrest of digestion by the cold bath and a consequent ptomain poisoning. The next I had was an infant less than 2 years old, who had been given a large piece of bologna sausage by a butcher, and in two days also had a typical poliomyelitis anterior, so that the question of development of a special poison from dietetic products naturally suggested itself to my mind. As regards the distinction between poliomyelitis and Landry's paralysis if we are only going to say that one does and the other does not get well, that is not a very clear pathology. We can readily understand the fact that an overdose of poison in one case might cause death while the patient might survive a less quantity. As regards Landry's paralysis, always beginning in the lower extremities and ascending, in about as typical a case as I ever saw the arms were first affected.

DR. W. A. JONES, Minneapolis, Minn.—I think I saw a case of poliomyelitis in an adult two or three years ago—a young man of 24, who had been previously well. He was taken during the night with some acute disturbance, the nature of which we were unable to determine. The following day he had a paralysis of one leg, which gradually developed, and a paralysis of the opposite succeeded, but was only affected in a very mild degree. He had absolutely no sensory involvement, and none of the bladder or rectum, but he had what a great many children have, a rapid wasting of the muscles. The condition went on for a year or two before I saw him, and by that time he had the usual contractures and had passed beyond the flaccid stages of poliomyelitis. It was the first case I had ever seen, and interesting on that account.

A. E. STERNE, Indianapolis, Ind.—I think I can add two cases to this, one is a colleague of ours, who is present at the meeting of this ASSOCIATION and whom I intended to have here this afternoon. I saw him, as Dr. Jones mentioned he did in his case, a short time after the acuteness of the illness had passed away. It seems, however, that in these two we have a distinction to make which Dr. Hoppe mentioned, i. e., in almost all of the cases reported—and they are few—an infectious disease had previously been experienced. He makes the distinction in his cases that these, therefore, are not to be classed truly as conditions of acute poliomyelitis anterior. That distinction is not, on the spur of the moment, easy to subscribe to, as I have always considered these typical cases of poliomyelitis. At the time I saw the first case of mine, I had not heard of a single one of adult poliomyelitis, and had supposed it to be unique, and so referred it to the medical society. The legs were not involved, but both arms were totally paralyzed. There was absolutely no evidence of a neuritic character; no pain, no pressure points, none of the significant marks which we usually associate with such disturbances. The man's father had had acute articular rheumatism, and his mother at the same time, about three months before he became ill. He had attended both. A short time before he became paralyzed in the upper extremities, he began to have pains in various joints, but the joints did not develop the typical pains which we are wont to see in acute arthritis. I have always regarded that case as a case of post-arthritic poliomyelitis, and the marks of the condition were typical enough; decrease of electric reaction without absolute reaction for degeneration; faradic irritability was lost, but the reaction for degeneration to the galvanic current had not set in at the time I saw him, nor had it ever made its appearance, because he was immediately put on treatment and has completely recovered. He was treated steadily for four months, twice a day with the galvanic current until the faradic irritability was restored, and after that with massage. He now uses his arm perfectly. At the time I saw him the supra- and infra-scapular, the deltoid and the extensor muscles were completely paralyzed. He now does his operating himself, and while he still has considerable atrophy, notably in the smaller extensor muscles of the hand, he can get along perfectly well. He is 25 or 26 years of age.

The second case occurred almost immediately after the first. It was also in a young man, who looked in about as near a moribund condition as a walking person could. He was brought to me for consultation, by his family physician, and had a severe typical malarial intoxication, giving the typical febrile reaction that we find in Indiana to-day. Both of these developed suddenly, just as we find in children. Both of them, moreover, thought they had simply an acute gastritis. The paralysis was sudden and more wide-spread right at the start, although, as I say, the legs were not involved beyond weakness. The second patient did not respond to treatment. The atrophy remained. I concluded, however, that the ill-success with him was due to the fact that he was still suffering from intense malarial intoxication that had in all probability started the spinal disease. He dropped out of my sight, and

was taken to the hospital, and within a reasonable time, I think possibly four months after I first saw him, he died, and the post-mortem, so much as could be made, revealed a typical case of anterior poliomyelitis. It is the only typical case with a post-mortem that has been reported at all in the adult; the complete report of the case still remains in abeyance.

DR. AUGUSTUS A. ESHNER, Philadelphia—An alteration in any portion of the peripheral sensory neuron, or of the peripheral motor neuron, might readily give rise to the symptoms present in these two cases and similar ones. Nor need we conceive that alterations of this sort are necessarily dependent on any one single toxic influence. There are a variety of agencies, some of bacterial origin, as the infectious diseases, some of toxic, as from poison introduced from without, or generated within, the body, as alcohol, mercury, lead, gout, diabetes, uremia, that are capable of affecting the peripheral motor or sensory neurons, and at times it is exceedingly difficult to make the differentiation.

DR. F. SAVARY PEARCE, Philadelphia—Dr. Sterne, in saying that malarial intoxication was a probable cause of the paralysis, reminds me of a case of locomotor ataxia which I reported last year, in which, so far as I could trace the etiology, the tabes was due to acute malarial intoxication. The case I reported was a precocious one, occurring in a young man in whom there was absolutely no syphilitic history. Overwork alone as the probable cause, was also ruled out when it was learned that the symptoms rather suddenly supervened on acute severe malarial fever.

DR. H. H. HOPPE, Cincinnati, Ohio—Many of the cases of anterior poliomyelitis in children are not poliomyelitis in the strict sense of the word, but focal myelitis. We know that epidemics of poliomyelitis have been reported, one in Stockholm, where thirty cases occurred in a single physician's practice. While the anterior horn or the gray matter of the anterior horn is not a very large area, small areas are perfectly capable of setting up in children or adults a focal myelitis that would simulate poliomyelitis, but I did not regard them as true cases of poliomyelitis. I have placed these two on record because of the extensive involvement of both sides from the lumbar to the cervical region.

CASE OF SPINAL ANTERIOR SUBACUTE GENERAL PARALYSIS.

BY C. EUGENE RIGGS, A.M., M.D.
ST. PAUL, MINN.

On Nov. 24, 1897, Miss A. B., aged 27, a student, and single, consulted me. She had always been perfectly well, with the exception of an attack of measles six years before. There was no history of syphilis or tubercular disease in the family, and no neurotic tendency. Six months before I saw her, she first noticed difficulty in walking. For a year previous to that time she had suffered from cramps in the calves of both legs, which, later, involved the thigh, abdominal muscles and both forearms. At the time she first noticed the trouble in walking there was no pain, but the gait gradually became more and more involved until when I saw her it was of a hobbling character. There was marked weakness of the tibial and peroneal groups of muscles in both legs. The limbs were cold and white. The thigh muscles, posterior aspect, were paretic, especially on the left side. The psoas iliacus and abdominal muscles were also paretic. The patient could not lift herself into the upright position when lying flat on her back. Flexion and extension of the muscles of both legs were much impaired. The flexion of the left foot on the ankle was very slight, and there was some diminution of the same motion in the right foot. The muscles of the legs were greatly atrophied. The organic reflexes were unimpaired. There was static ataxia. Sensibility was normal. There were no subjective sensations. The knee-jerk was normal, there was no ankle-clonus, and the superficial reflexes were normal. The motility of the arm was impaired and the deltoids perceptibly weakened. The dynamometer showed the right hand twenty; left hand, fifteen. Flexion and extension of the arms were impaired. Sensibility of arms was normal, and there were no subjective sensations in them. The wrists and triceps reflexes were normal. The pupils reacted normally to light and accommodation, the ocular muscles were normal, there was no vasomotor disturbance, the mental condition was unimpaired, and no disease of the kidneys was present.

The development of the disease in both extremities simultaneously, together with the extensive loss of power and the fact that the knee-jerk was preserved when there was such extensive involvement of the muscles of the lower extremities, created in my mind a doubt as to whether the trouble might not be peripheral rather than central. It seemed possible the case might be one of those described by Gowers as a purely motor neuritis, and therefore painless. The course of the disease, however, dissolved this doubt. The patient went into the hospital for four months; shortly after she left, atrophy of the left thenar and hypothenar eminences began. The lumbricales and the interossei also became involved. There was also weakness of muscles of the forearm and arm, the muscles showing a quantitative electric change while the muscle and nerve formula on the opposite arm was normal. (There was also atrophy of the muscles of the scapulo-humeral group.) All muscles showed quantitative electric change.

Along with the atrophy of the muscles of the hand there developed muscular twitchings which extended all over the body, with the exception of the anterior aspect of the chest, and were most severe in the atrophied muscles. This tremor seemed to comprehend in its range both fibrillary tremors as well as movements of the whole muscular mass. I have never seen the same kind of tremor save in one indisputable case of progressive muscular atrophy of the subacute type. I was quite apprehensive lest these tremors might mark the beginning of progressive muscular atrophy with a subacute onset. Charcot says that progressive muscular atrophy may follow infantile spinal paralysis, and by analogy one can see no reason why it might not follow spinal paralysis in the adult.

The disease increased steadily until October, 1898, when its progress seemed to undergo an arrest.

Of course a case of this sort barely serves to suggest the difficulties of diagnosis that may arise between poliomyelitis and polyneuritis. The closest students of the subject still hold widely varying opinions as to the relations of the two diseases. Erb considers all cases of amyotrophic paralysis as depending on an alteration of the ganglionic cells of the anterior horns of the cord; the multiple neuritis observed in some cases he considers as much a trophic trouble as the concomitant muscular atrophy. Sometimes the primordial lesion of the gray substance is dynamic only, and then histologic examination does not show any modification of structure save in the nerves themselves.

For Strumpel, polyneuritis is a distinct morbid entity with an individuality all its own, which one may set over against poliomyelitis as one contrasts diseases which differ by their nature, cause, and the seat of the lesion, having nothing in common save a great analogy of symptoms.

Gowers inclines to Strumpel's point of view and be-

lieves that "many subacute and chronic cases which have been described as atrophic spinal paralysis are peripheral, not central in their nature, and are cases of multiple neuritis. . . The history of the subacute spinal disease has been largely written from cases of multiple neuritis." On the other hand, he thinks that cases of central disease have not infrequently been considered peripheral.

Marie gives it as his conviction that in the majority of cases "the pretended peripheral neuritises are simply the consequence of central alterations and that among these central alterations those of the gray medullary substance play the principal part."

Raymond is inclined to believe that amyotrophic paralyses associated with multple neuritis and amyotrophic paralyses of manifestly spinal origin are "similar morbid conditions developing under the influence of the same causes, which appear to affect indifferently any portion of the apparatus represented by these three organs, viz., the ganglionic cells of the anterior horn, the motor fibers and the muscular fibers." That is to say, the morbific influence may attack any part of the neuro-muscular apparatus; either the muscle, the axis-cylinder, or the ganglionic cell itself, or all three of these simultaneously. He is, however, also of the opinion that in the pathogeny of amyotrophies, the dominant element is the dynamic or structural alteration of the trophic spinal centers.

The most suggestive recent contribution to this complicated subject has been made by Marinesco[1]. There are certain constant lesions in a nerve-cell which follow the section of a nerve-trunk. These have been verified by repeated experiments by various investigators. Precisely the same lesions have been observed and described in histologic examinations of the nerve-centers following neuritis. As these secondary lesions of the nerve-cell differ pronouncedly from primary lesions of the same substance, it seems safe to assume that they follow the neuritis rather than precede it. Marinesco distinguishes two stages in the development of these lesions. In the first phase the chromatic elements of the cell undergo more or less dissolution; in the second phase the trophoplasm itself undergoes modification. "From this time on the neuritic lesion is irreparable. and what may be termed the poliomyelitic phase of polyneuritis has begun." If Marinesco's deductions are correct, the differentiation between a simple polyneuritis and a polyneuritis in which the "poliomyelitic" phase has begun, is absolutely impossible.

NOTE.—Since preparing this article some three months ago, I have noted beginning involvement of the intrinsic muscles of the right hand. It is now just one year since the disease began to invade the like muscles of the left hand.

Pneumotoxin.—After denying, for years, the existence of a pneumotoxin, Pane has at last succeeded in producing it himself, with extremely virulent cultures. He also announces that a mixture of diphtheria toxin and antitoxin fatal for rabbits can be borne by guinea-pigs without injury; also that animals can be saved by the intravenous injection of an amount of antitoxin which, injected hypodermically would be ineffective. He is convinced that the action of therapeutic sera is not a chemical neutralization of toxins but a biologic reaction induced in the organism. Maragliano also asserts that the injection of tuberculosis antitoxin leads to the production of more antitoxin in the organism.—*Report of Ital. Cong. of Int. Med.*

[1] Revue Neurol., 1896, No. 5.

Special Article.

DECISION ON OSTEOPATHY.

Harry Nelson, Plaintiff, vs. State Board of Health, Defendant, in Jefferson Circuit Court, Law and Equity Division.

Opinion by Sterling B. Toney, Judge.

SYLLABUS OF POINTS DECIDED.

1. The statutes of Kentucky against empiricism are *constitutional*.
2. Whether a school of medicine from which a party holds a diploma is a reputable medical college, is a question alone and exclusively for the State Board of Health to decide.
3. Mandamus will not lie to compel the said Board to decide a particular way. Their act is quasi-judicial and is not subject to mandamus.
4. On the merits, held that the American School of Osteopathy at Kirksville, Mo., from which the plaintiff holds a diploma, is not a *reputable medical* college; and that the State Board of Health is right in refusing to allow the plaintiff to practice osteopathy in this state. The evidence analyzed and the law reviewed.
5. Historic review of kindred quack schools of mysterious healing.

This is a suit in equity by the plaintiff, Harry Nelson, against the State Board of Health of Kentucky, to enjoin it from instituting or causing to be instituted against him a criminal prosecution for treating or attempting to treat in this state sick or afflicted persons by the system or method of healing known and called "Osteopathy," and for practicing or attempting to practice medicine or surgery in this state according to said system.

The plaintiff in his petition avers "that the defendant, the State Board of Health, unless enjoined from so doing, will have him arrested, prosecuted and fined for practicing or attempting to practice in this state medicine and osteopathy, under the provisions of an act of the General Assembly of Kentucky approved March 18, 1898, entitled "an act to amend an act, entitled 'An Act to protect Citizens of this Commonwealth from empiricism' approved March 10th, 1893."

He further alleges "that he is advised and so states the fact to be that the said act of the Legislature of Kentucky under which the defendant is about to have him prosecuted criminally, is in violation of the bill of rights and is unconstitutional and void, and by reason thereof, is of no force or virtue in law."

He further avers in his petition "that he is a graduate of and holds a diploma from the American School of Osteopathy at Kirksville, in the State of Missouri, at which said institution he graduated Dec. 15, 1897," and he alleges "that the said American School of Osteopathy is a reputable and legally chartered medical college, with a large and learned body of professors, and a large patronage of pupils;" and in support of this allegation, as to the character of said school or college, he files with his petition a catalogue of the same, marked "Exhibit B," and states that the said American School of Osteopathy as Kirksville, Mo., is entitled to be indorse and recognized by the State Board of Health of Kentucky, the defendant therein, and that the said plaintiff, as one of its graduates, is entitled to carry on his business as a practitioner in osteopathy in this state without hindrance, examination or molestation by the defendant, the said State Board of Health. He alleges "that the defendant is discriminating against the peculiar school or system of healing, known as osteopathy, to which the plaintiff belongs, and has failed and refused, and still fails and refuses, to indorse the said college as a 'reputable and legally chartered medical college of another State,' to-wit of the State of Missouri, or to grant to him, the said plaintiff, a certificate of that fact, so as to authorize him to practice his said profession of osteopathy in this state without subjecting him to the penalties of the law." The plaintiff has framed his petition in a double aspect, and prays for alternative relief, to the effect that if he be not granted the injunction prayed for, to prevent the State Board of Health from having him prosecuted, then for a writ of mandamus to compel the defendant to recognize and indorse the said American School of Osteopathy at Kirksville, Mo., to the end that his diploma therefrom may entitle him to a certificate from the said defendant, to practice his calling in this state.

The defendant, on Oct. 8, 1898, filed its answer in two paragraphs, to the foregoing petition.

In the first paragraph the defendant traverses the material allegations of the petition; and denies that the American School of Osteopathy at Kirksville, Mo., is a reputable and legally chartered medical college; denies that it has a large and learned body of professors; denies that the pupils are instructed or taught in any branch or branches of learning or science, proper and necessary for the education of physicians or surgeons, or proper or necessary for the training or preparation of students for the practice of medicine or surgery; denies that

its professors, or any of them, are capable of teaching any branch of science, or the principles of any branch of science or learning proper and necessary to be taught to students studying medicine or surgery; denies that the said school is entitled to the indorsement or recognition of the said State Board of Health, defendant herein.

In the second paragraph of its answer, the defendant alleges that the plaintiff, Harry Nelson, has not the education nor training legally requisite in this state for the practice of medicine or surgery or any healing art or system of healing known to the medical or scientific world; and states that the plaintiff is neither competent, fitted nor qualified by education or training to practice medicine or surgery or any known system of healing in this or any other state; that in the month of June, 1898, the defendant duly notified the plaintiff to appear before it and be examined as to his competency, fitness and qualification to practice medicine or surgery or any healing art, in order, if it were ascertained that he was so qualified, that it, the said Board of Health, might issue to him a license so to do, but that the plaintiff refused and still refuses to appear before the said Board to be examined by it as to his qualification, fitness and competency to practice medicine or surgery, or any healing art, or to treat any sick or afflicted person or persons by any system or method of healing whatsoever.

OSTEOPATHY A SYSTEM OF CHARLATANISM.

The defendant further alleges that the said American School of Osteopathy at Kirksville, Mo., and the system or method of healing which it proposes or attempts to teach or does teach, is not scientific nor based on scientific principles of medicine or surgery, or any other plan or method of healing the sick or those suffering from any of the ills that flesh is heir to, but that on the contrary, the said doctrines, methods and principles for treating sick and afflicted persons inculcated, taught and practiced at the said "American School of Osteopathy" are a complete system of charlatanism, empiricism and quackery calculated and designed to impose on the credulous, superstitious and ignorant, and fraught with danger to the health, limbs and lives of the citizens.

PROFESSORS NOT COMPETENT TO TEACH.

The defendant further states that the said so-called professors constituting the faculty of the said school are not competent to teach, and do not teach, any of the sciences or studies essential to the education of physicians or surgeons, and that the said school itself is wholly unfitted and unprepared in the necessary equipment and facilities for instruction, for the preparation and education of persons for the practice of medicine or surgery or any healing art, and that the said studies taught, and the practices followed in said school are wholly insufficient for the preparation of persons other than as quacks, empirics, and charlatans, for the suppression and prevention of which the very statute referred to in the plaintiff's petition, and charged by him to be unconstitutional, was made and provided. The defendant states that the seven members constituting the said Board of Health under the statutes of this state are sworn officers of the law, and as such their only desire and purpose have been and are to fulfil the duties imposed on them as members of the said State Board of Health by the Commonwealth of Kentucky, for the protection of the health, limbs and lives and welfare of the citizens of this state; and that all that it, the said Board of Health, has done, is doing or contemplates doing, is with the sole desire and for the sole purpose of carrying into effect the letter, spirit and intent of the statutes made and provided by the legislature of this commonwealth, for the protection of its citizens against empiricism, charlatanry and quackery; and the defendant further avers that to permit the plaintiff, unprepared, incompetent and unqualified as he is, or any of his associates in the said so-called school of osteopathy similiarly unqualified, incompetent and unfitted, to practice or to attempt to practice medicine or surgery or any of the arts of healing in this state, would be to endanger and to sacrifice the health, limbs and lives of the citizens of this commonwealth. The foregoing is the answer of the defendant to the plaintiff's petition.

On Nov. 12, 1898, the plaintiff filed his reply to the defendant's answer, traversing all of the affirmative allegations therein contained, except the averment that he had received notice from the defendant to appear before it and submit to an examination. This averment in the answer, the plaintiff admits in his reply to be true, and alleges that there is no law requiring him to submit himself for examination before the said State Board of Health, which said Board of Health, the plaintiff, in his reply, characterizes as "A Self-Constituted Board or Court of Inquisition."

The foregoing petition, answer and reply, the substantial averments of which are above set forth, are all the pleadings in this case and present the only issues of the law and of fact for adjudication by this court.

The defendant, the State Board of Health, is established by Section 2047, Chapter 63, page 750, of the Kentucky Statutes. At present it is composed of seven members: Drs. Joseph M. Mathews, William Bailey, Arch Dixon, J. H. Samuel, George T. Fuller, J. H. Letcher, and J. N. McCormack, physicians and surgeons of learning, eminence and distinction in the sciences of medicine and surgery. The six of these were appointed by the governor, by and with the advice and consent of the Senate, and the seventh member, whom the statute provides shall be secretary of the board, Dr. J. N. McCormack of Bowling Green, was elected by the other six members.

By Section 2049 of the same chapter of the Kentucky Statutes, it is provided:

That the said State Board of Health shall have general supervision of the health of the citizens of this State.

By Section 2617, it is provided:

It shall be the duty of the state and local boards of health to bring to the attention of the Courts any violations of the provisions of this law within their respective jurisdictions.

In Sections 2049, 2050 and 2057, the powers and duties of the Board are defined.

By Section 2613, it is provided as follows:

Authority to practice medicine under this law shall be a certificate from the State Board of Health, and said Board shall upon application issue a certificate to any reputable physician who is practicing, or who desires to begin the practice of medicine in this State, who possesses any of the following qualifications:

1. A diploma from a reputable medical college legally chartered under the laws of this State.

2. A diploma from a reputable and legally chartered medical college of some other state or country, indorsed as such by the State Board of Health.

3. Satisfactory evidence from the person claiming the same that such person was reputably and honorably engaged in the practice of medicine in this State prior to Feb. 23, 1864.

4. Satisfactory evidence from any person who was reputably and honorably engaged in the practice of medicine in this State prior to Feb. 23, 1884, who has passed a satisfactory practical examination before said Board."

By Section 2612, it is provided as follows:

It shall be unlawful for any person to practice medicine in any of its branches within the limits of this State, who has not exhibited and registered in the County Clerk's Office of the county in which he resides his authority for so practicing medicine as herein prescribed, together with his age, address, place of birth, and the school or system of medicine to which he professes to belong: and the person so registering shall subscribe and verify by oath before such clerk, an affidavit containing such facts, which if willfully false, shall subject the affiant to conviction and punishment for perjury.

By Section 2616, it is provided as follows:

Nothing in this shall be so construed as to discriminate against any institution, school or system of medicine.

By the act of the General Assembly, approved March 18, 1898, it is provided as follows:

Any person living in this State, or any person coming into this State, who shall practice medicine or attempt to practice medicine in any of its branches, or who shall treat or attempt to treat any sick or afflicted person by any system or method whatsoever, for reward or recompensation, without first complying with the provisions of this law, shall upon conviction thereof, be fined fifty dollars, and upon each and every subsequent conviction shall be fined one hundred dollars and imprisoned thirty days, or either or both, in the discretion of the Court or jury trying the case; and in no case where any provision of this law has been violated shall the person so violating be entitled to receive any compensation for the services rendered. To open an office for such purpose, or to announce to the public in any way a readiness to treat the sick or afflicted shall be deemed to engage in the practice of medicine within the meaning of this act.

This last quoted act is the statute which the plaintiff denounces in his petition as being in violation of the bill of rights and unconstitutional and void.

It is a coincidence smacking of legislative irony, and not perhaps without significance, that following this, Article 1 of Chapter 85, of the Kentucky Statutes on medicine and surgery and empiricism, is Article 4, on "unclaimed dead bodies."

The first question to be determined by the Court is one of law, to-wit, whether the act of the legislature, approved March 18, 1898, above quoted, under which the defendant, the State Board of Health, was proceeding to have the plaintiff arrested and prosecuted is unconstitutional.

In the case of Dr. Joesph M. Mathews vs. the City of Louisville and the Commissioners of the Sinking Fund of the City of Louisville, No. 10,180 in the Law and Equity Division of the Jefferson Circuit Court, in an opinion by this Court handed down Jan. 2, 1897, it is said:

The State of Kentucky in the exercise of its police powers, undoubtedly has the right, for the preservation of the health, limbs and lives of the people—which is certainly one of the chief ends of government—to regulate the practice of medicine and surgery by general laws applicable to all who engage in it; and to this end, to require of those who desire to practice said calling to comply with certain statutory requirements as conditions precedent to engaging in the practice of said profession.

This police power in the State is as unquestionable as is its lawful authority to adopt measures tending to suppress the sources of disease, to avert the spreading of contagion, to prevent the adulteration of provisions, and to legislate in all directions for the promotion of public morals, the suppression of vice, and for the protection of the public health. For this purpose, and to protect the public from the imposture and fraud of quacks and charlatans, the General Statutes of this state wisely require certain evidences of fitness and competency from those offering to practice mdicine and surgery, in the shape of diplomas from reputable medical colleges and a certificate from the State Board of Health appointed by law. (See Sections 2611, 2612, 2613, pages 919 and 920, General Statutes of Kentucky.)

Such requirements of the statute can not be considered a discrimination against one class of citizens, or an unequal or unjust impediment or burden imposed on those offering to follow the profession of medicine and surgery in this state.

They are simply reasonable restrictions and regulations which the state has the undoubted right to adopt for the protection of the health, lives, limbs and safety of the citizens of this commonwealth. The State of Kentucky, as a branch of its sovereignty, has the indisputable right, in the exercise of its police power, to place such restrictions and conditions upon those offering to practice medicine and surgery within the commonwealth, and has equally the constitutional right of delegating to a municipality the same power.

In the case of Dent vs. State of West Virginia, decided by the Supreme Court of the United States, Jan. 14, 1898, Mr. Justice Field, speaking for the unanimous court said:

Few professions require more careful preparation by one who seeks to enter it than that of medicine. It has to deal with all those subtle and mysterious influences upon which health and life depend, and requires not only a knowledge of the property of vegetable and mineral substances, but of the human body in all of its complicated parts and their relations to each other, as well as their influence upon the mind. The physicians must be able to detect readily the presence of disease and prescribe medicine for its removal. Every one may have occasion to consult him, but comparatively few can judge of the qualifications of learning and skill which he possesses.

Reliance must be placed upon the assurance given by his license that he possesses the requisite qualifications. Due consideration, therefore, for the protection of society may well induce the state to exclude from practice those who have not such a license or who are found upon examination not to be fully qualified. The same reasons which control, in imposing conditions, upon compliance with which the physician is allowed to practice in the first instance, may call for further conditions as new modes of treating diseases are discovered, or a more thorough acquaintance obtained with the remedial properties of vegetable and mineral substances, or a more accurate knowledge is acquired of the human system and of the agencies by which it is affected. No one has the right to practice medicine without having the necessary qualifications of learning and skill; and the statute only requires that whoever assumes, by offering to the community his services as a physician, that he possesses such learning and skill, shall present evidence of it by a certificate or license by a body designated by the state as competent to judge of his qualifications.

Not only has the Supreme Court of the United States expressly upheld such state statutes as the one under consideration for the protection of the health, limbs and lives of the citizens, but in almost every state in the Union the constitutionality of such legislative acts has been upheld by the state courts of last resort, save and except in the case of the State vs. Rennoyer, reported in the 18 Atlantic Reporter, 873, in which the Supreme Court of New Hampshire held that an act of the legislature requiring similar conditions in order to obtain a license to practice medicine in that state was unconstitutional.

In Driscoll vs. Commonwealth, 93 Kentucky, 394, and in Hargan vs. Purdy, 93 Kentucky, 424, it was held that the legislature of Kentucky has the constitutional authority to enact a law requiring those who undertake to practice medicine or surgery to give evidence of their fitness by procuring a license from those who, in the legislative judgment, are competent to determine whether the applicant possesses the necessary qualifications.

In view of the overwhelming weight of authority in both the state and federal courts in support of the constitutionality of such state statutes it is hardly conceivable that their constitutionality will ever again be questioned in the courts of this state.

The constitutional validity of the act complained of being indisputable, what are the other issues to be tried in this case? It is not alleged that the plaintiff had or has a diploma from a medical college duly chartered under the laws of this sister state; nor is it alleged or claimed that the plaintiff was engaged in the practice of his profession in this state prior to Feb. 23, 1864, or prior to Feb. 23, 1884; hence it must be admitted that he does not possess the first, third or fourth qualification named in Section 2613 of the Kentucky Statutes, above named.

It is an admitted fact that the plaintiff had and has a diploma from the American School of Osteopathy at Kirksville, Mo., and that the said school or college is legally chartered under the laws of that state.

The only question, therefore, for decision, is whether or not the plaintiff possesses the second qualification named in Section 2613 *supra*, to-wit, whether he "possesses a diploma from a *reputable* and legally chartered *medical* college of some other state?" Admitting that he has a diploma from the "American School of Osteopathy" at Kirksville, Mo., and that said school is a college legally chartered under the laws of that state, within the meaning of the statute, the question is whether the said school is a *reputable medical* college? If it is a reputable medical college, as the plaintiff holds a diploma from it, it was the duty of the defendant, the State Board of Health, under the statute, Section 2613, SubSection 2, of the Kentucky Statutes quoted *supra*, to indorse it as such, and thereby authorize the plaintiff to practice his profession in this state. But if the said school is not a reputable medical college, then the defendant, the State Board of Health, was right in refusing to indorse it as such, and in refusing to recognize the plaintiff's diploma therefrom, and is simply performing its duty under Section 2617 of the Kentucky Statutes in having the plaintiff arrested and prosecuted under the act of March 18, 1898, quoted *supra*. The first question for decision therefore is, whether the said American School of Osteopathy at Kirksville, Mo., is a reputable medical college? The word "reputable," as used in the statute when applied to a college, has a different meaning from what it has when applied to an individual. When applied to an individual the adjective "reputable" has reference to his moral character and to his character or reputation as an honorable or dishonorable man, i. e., whether he is a person of integrity and good character; but when applied to a college it has reference to the extent of its courses and study, that is to the period of study required for graduation, and to the thoroughness of the education required at such college, and to the thoroughness of the course or courses of science prescribed and taught in said college, and to the capacity and qualifications of the teachers as educators therein, and to the standard of scholarship and proficiency in said sciences required of the students, as condition precedent to the issuing of diplomas to them as graduates thereof.

In the case of William Barmore vs. The State Board of Medical Examiners, decision by the Supreme Court of Oregon, Chief Justice Strahan, in interpreting the words "good standing," occurring in a statute of Oregon which required of physicians applying to practice medicine in that state, a diploma from "medical institutions of good standing," used the following language:

As a part of the current history of the times and as an aid in arriving at the legislative opinion when there were different kinds of colleges authorized by the laws of the states in which they were located, in which there were pretended annually to be delivered full courses of lectures and instruction upon the arts and sciences professed to be taught that were not reputable, because they graduated students for money frequently without regard for scholarship, a diploma from such an institution afforded no evidence of scholarship or attainments in its holder. It was a fraud and deserved no respect from anybody, and it was against such diplomas the law was intended to protect the public, and therefore required the colleges to be *reputable*. Whether a college be reputable or not, is not a legal question, but a matter of fact. So also are the requirements in regard to the annual delivery of full courses of lectures and instruction. These questions of fact are by the Act submitted to the decision of the Board, not in so many words, but by the plainest and most necessary implication. Their action is to be predicated upon the existence of the requisite facts, and no other tribunal is authorized to investigate that, and if necessary, therefore, they must do so.

The word *reputable* in the statute of Kentucky as applied to a college, as synonymous with the phrase " of good standing" in the statutes of other states. The foregoing meaning of the words, "of good standing," as synonymous with "reputable," was based by Chief Justice Strahan upon the case of "The People vs. State Board of Medical Examiners, 110 Illinois, 180, where the word "reputable" appears in the statute of Illinois instead of the words "good standing," as in the statute of Oregon. When applied to colleges or institutions professing to teach any of the sciences, they mean the same thing. Such is in harmony with the manifest purpose of the statute.

To the same effect is the decision of the Supreme Court of Iowa, rendered in May, 1893, in the case known as "The Eclectic College Case." Said Given, J., in that case, in interpreting the meaning of the statutory phrase "of good standing" as applied to a college in that state:

The standing of the college as contemplated by this statute is rather what the college is in respect to the thoroughness of its courses than what it is reported to be. . . . The standing of the college was a matter within the jurisdiction of the defendant Board of Medical Examiners to determine; and on Nov. 21, 1890, after a full and fair examination, it determined that said college (referring to the Eclectic Medical College) was not in good standing, because its teachings were not up to the minimum requirements.

He further said:

It is clear that the defendant Board of Medical Examiners did have the power by proper investigation to determine the identity of applicants and the genuineness of their diplomas and whether said diplomas were issued by a medical school legally organized and in good standing.

In the case of the People ex. rel. Isaac N. Sheppard vs. The State Board of Dental Examiners, decided by the Supreme Court of Illinois in May, 1884, it was said:

Whether a dental college is "reputable" or not, within the ordinary meaning of that word, is not a legal question but a question of fact. This question is by the act submitted to the decision of the State Board of Dental Examiners. Their action is to be predicated upon the requisite facts, and no other tribunal is authorized to investigate them. The act of ascertaining and determining what are the facts is in its nature judicial, involving investigation, judgment and discretion.

Continuing, the Court said:

The office of a writ of mandamus is to enjoin and to compel the performance of mere ministerial acts prescribed by law. It lies, however, also to subordinate judicial tribunals to compel them to act where it is their duty to act, but never to require them to decide in a particular manner. It is not like a writ of error or appeal, a remedy for erroneous decisions. A subordinate body can be directed by the writ to act, but not how to act in a matter as to which it has the right to exercise its judgment. The character of the duty, and not that of the body of the officers, determines how far the performance may be enforced by mandamus. So upon the refusal of the Illinois State Board of Dental Examiners to grant a license to a person whose application was based upon a diploma issued by a dental college, mandamus will not lie to compel the Board to grant the license, because to entitle the applicant to a license the diploma must have been issued by a reputable dental college, and whether the college is a "reputable" one, is, under the statute, within the judgment and discretion of the Board to determine. The petition for a writ of mandamus to compel the Board to issue a certificate to the petitioner is therefore denied.

So also the case of People, for the use of the State Board of Health, vs. "Blue Mountain Joe," decided by the Supreme Court of Illinois in June, 1899, opinion by Mr. Justice Swope.

What tribunal did the Legislature of Kentucky intend should determine whether or not the medical college in another state, from which an applicant coming into this state to practice medicine or surgery with a diploma therefrom, is or is not a reputable college? It is perfectly obvious that the legislature intended that this question should be determined by the State Board of Health, and that the fitness and educational qualification of such applicant, whether evidenced by such a diploma or by an examination of the applicant, should be determined by the members of the said Board of Health, and by no other tribunal. It is absurd to suppose that the legislature intended that this question should be determined by a judge or jury on appeal from the decision of the said Board. In the legislative judgment of Kentucky as declared in the statutes above quoted, the State Board of Health is alone authorized and empowered to decide this question, if not expressly by necessary legal implication. Such is in consonance with the philosophy, the policy, the spirit and the letter of the statute.

KIRKSVILLE SCHOOL INVESTIGATED.

The proof clearly demonstrated that the defendant, the State Board of Health, fairly and fully investigated the American School of Osteopathy at Kirksville, Mo. It sent a committee of three reputable physicians in the state to that institution, Drs. J. M. Bodine, George W. Griffith and H. A. Cottrell, to examine into its equipment, apparatus and facilities for teaching, and to see the professors and ascertain whether they were ignorant pretenders or self-conceived visionaries or competent educators.

Dr. McCormack, the secretary of the Board, a physician and surgeon of high character and distinction in this state, also visited Kirksville, Mo., and examined the American School of Osteopathy, and his testimony is in the record.

The proof shows that the said investigation and examination by the said Board through its said committee and by Dr. McCormack, to determine whether the said American School of Osteopathy was a reputable medical college within the statutory meaning of the term as above set forth, were conducted openly and fairly and not arbitrarily and capriciously; that the said Board, after a full and complete and exhaustive investigation, determined that the American School of Osteopathy at Kirksville, Mo., from which the plaintiff holds a diploma, was *not* a *reputable medical* college, and that decision was based on a full and thorough inquiry into the facts and did not emanate from, nor was it influenced by, any prejudice or hostility on the part of the said State Board of Health to osteopathy or its teachers. It is vain to say that such a decision by the Board was a discrimination against the American School of Osteopathy as a peculiar school or system of medicine within the meaning and in violation of the provisions of Section 2616 of the Kentucky Statutes, quoted *supra*. It is my opinion that the action of the State Board of Health in determining that the American School of Osteopathy was not a reputable medical college, and that the diploma from it held by the plaintiff was entitled to no respect, is final and conclusive; and in the absence of an allegation and proof of fraud or gross violation of the duty equivalent to fraud, or abuse of discretion, and none such is or can be pretended or claimed, is not appealable to nor revisable by the courts.

However, waiving this point, which would end the case here, and looking into the voluminous testimony contained in the record for proof to sustain the plaintiff's allegation, that the decision of the defendant in refusing to recognize the American School of Osteopathy as a reputable medical college and refusing to indorse the plaintiff's diploma was contrary to the facts, what do we find?

A "STILL" SCHOOL.

The plaintiff files with his petition a catalogue of the American School of Osteopathy, and those expert witnesses for plaintiff, and professors in said school who have testified in this case refer to said catalogue and make it a part of their testimony as illustrative and explicative of the character of said college, and the "science of osteopathy" as taught therein. From this catalogue it appears that the Board of Trustees of the said school consists of the following five persons, to-wit: A. T. Still, who "discovered Osteopathy" in 1892; C. E. Still, H. T. Still and H. M. Still, his three sons, and Miss Blanche, his daughter. They are the incorporators of the said corporation, under the corporate name, "The American School of Osteopathy." The officers of the Board of Trustees are the following: A. T. Still, president; C. E. Still, vice-president; H. M. Still, vice-president, and A. G. Hildreth, secretary.

The catalogue contains the charter of the said school, granted by the legislature of the State of Missouri, which reads as follows:

Article 1.—The name and style of this corporation shall be THE AMERICAN SCHOOL OF OSTEOPATHY, and shall be located in the city of Kirksville, in the county of Adair, and State of Missouri.

Article 2.—The officers of this corporation shall be a president and such other officers as the trustees shall from time to time deem necessary, and appoint.

Article 3.—The object of this corporation is to establish a college of osteopathy, the design of which is to improve our present system of surgery, obstetrics and treatment of diseases generally, and place the same on a more rational and scientific basis, and to impart information to the medical profession, and to grant and confer such honors and degrees as are usually granted and conferred by reputable medical colleges; to issue diplomas in testimony of the same to all students graduating from said school, under the seal of the corporation, with the signature of each member of the faculty and of the president of the college.

Article 4.—That the corporate powers of said college shall be vested in a board of trustees, to consist of a number not less than five nor more than thirteen, and that the president of the board shall be ex-officio president of the college; which board shall have perpetual succession, with powers from time to time to fill all vacancies in their body, and that A. T. Still, Harry M. Still, Charles E. Still, Blanche Still and Herman T. Still, shall be the first members of said board, and shall have power to increase their number as hereinbefore specified.

Article 5.—That said board of trustees and their successors, for a period of fifty years, shall have full power and authority to appoint a faculty to teach such sciences and arts as are usually taught in medical colleges, and in addition thereto, the science of osteopathy; to fill vacancies in the faculty, to remove the same, to declare the tenures and duties of all officers and teachers, and fix their compensation therefor; to provide a suitable building and furnish the same, and to fix the amount of tuition to be charged students, the number and length of terms students shall attend such college before graduating, the qualifications necessary to admit students into such college; to grant diplomas to all graduates who shall have passed an examination satisfactory to the board of trustees and faculty, in each and every branch required to be taught and studied in the curriculum of said college; and to make all by-laws necessary for carrying into effect the objects of this corporation not inconsistent with the laws of the State of Missouri and the Constitution thereof.

The school is made a corporation, and the officers of the corporation by its charter are only such as the said board of trustees—composed exclusively of the Still family—shall from time to time deem necessary and appoint. The corporate powers of the institution under Article 4, are vested in this board of trustees—composed exclusively of the Still family—which is endowed with perpetual succession and with the power to fill vacancies that shall occur in that body, and it is expressly stated in the said charter that A. T. Still, Harry M. Still, Charles E. Still, Blanche Still and Herman T. Still, shall constitute said board, and shall have the power to increase their numbers as hereinbefore specified. This board, thus composed of the Still family, and such successors as the Stills shall nominate by Article 5 of the said charter, shall for a period of fifty years have full power and authority to appoint a faculty to teach such sciences and arts as are usually taught in medical colleges, and in addition thereto, the science of osteopathy, and to remove members of said faculty and to fill vacancies in the faculty thus occasioned, and to declare the duties of all the officers and teachers and fix their compensation; thus establishing an absolute despotism by the Stills over all the officers and members of the faculty of the said institution.

Referring to this charter as a production of said Dr. A. T. Still, the president, at page 6 of said catalogue, the following language appears:

In this way has the keen insight of Dr. A. T. Still into the future possibilities of osteopathy, and his entire and unreserved devotion to the interest of this child of his brain been exemplified in tangible form, and provision made for the development and promulgation of the science on a basis at once broad, liberal and permanent.

Thus it will be seen that the charter establishes a corporate Still syndicate, a *Still* trust in osteopathy, at Kirksville, Mo.

On page 7 of said catalogue appears what is called an *explanation* of osteopathy in the following language:

In the minds of many to whose notice this catalogue may come, will arise questions concerning the nature of osteopathy. Hence it is opportune to here make some explanation of the science.

In the outset be it understood that osteopathy differs radically and entirely from all schools of medicine. Its point of view in regarding disease, and its method of treating the disease have nothing in common with the methods employed in medicine. For example: A man calls upon a physician and states that he is suffering from bowel trouble; the doctor diagnoses it as a case of diarrhea in which the disordered nervous mechanism of the bowel causes a too profuse outpouring of fluid secretions; he prescribes a remedy containing some astringent as, for instance, sulphuric acid; this causes a constriction of the vessels and of the canal, and a diminution of the symptoms.

On the other hand, the osteopath, who has also diagnosed the disease primarily as above, gives no astringent, but goes to the nerves supplying the intestinal canal, the pneumogastric, the splanchnics, and the lower spinal sympathetics, by osteopathic manipulation he removes any irritation to these nerves which may be causing them to act unnaturally; he thus quiets the nervous mechanism which rules the function of the bowel, the unnatural secretion ceases and the patient loses his symptoms.

The doctor, true to the theorems of Hippocrates, has combatted the symptoms, has killed for the time being, the irritated and complaining nerve by the use of a poison, sulphuric acid; has thus caused the symptom to disappear, at least temporarily, and has rendered the probability of its return contingent upon the ability of the patient's system to recover from the original cause of the disease before the poisoned nerve awakes from its dangerous sleep. If the system accomplishes this feat the diarrhea has been "cured." The doctor gracefully acknowledges that he has not performed the cure. Oh, no, he has merely aided Nature. Poor Nature, how beautiful to contemplate this negative aid thus afforded. Mother Nature, how long will you be able to stand up with such aid, and how long can your poor aching member, the troubled nerve, withstand the effects of the poisonous draught. After sufficiently vigorous and prolonged poisoning, will not the faithful nerve complaining, and thus giving warning to the system that cause of irritation exists somewhere, be smitten down at the post of duty by the ruthless destroyer who has come in the guise of friendship and philanthropy?

Had the physician not succeeded in abating the symptom by use of the remedy indicated, he would have tried something else.

The above statements and questions are equivalent to saying that the medical practitioner doctors symptoms, not first causes; that Nature, not the doctor, cures; that the aid afforded by medicine to the diseased system is but negative, that medicines are poison, destructive first of the part most directly afflicted and later to the system as a whole; finally, that the methods employed by the ordinary medical practitioner are but experimental, as the frequent change of prescriptions in individual cases, the quick changing popularity of different remedies, the multitude of patent medicines, and the many hopeless chronic cases but too plainly indicate. Of these things, more presently. To revert to the original case, what has the osteopath done? He has gone to the original cause, has removed that which was hindering the nerve from performing its proper function, and causing it to act abnormally. "But," says the doctor, the original cause was an indiscretion in diet, and has passed away." The osteopath answers that the indiscretion was bad, but was really the occasion, and not the original cause, that while, in this case, such may have been the immediate cause, the original cause lay deeper in the nerves or centers controlling the bowel. We shall see later what the osteopath regards as causes affecting the nerves and centers, and why in treating diarrhea and many other cases, he goes to the origin of the nerve-supply, working along the spine principally, and upon nerve-centers and plexuses generally, to effect his cures.

Let us note in passing that the osteopath regarded the symptom merely as such, and allowed it to lead him to the original causes, that while he merely aided Nature, he did so in a positive, not negative manner, by directly treating the cause of irritation, as for example, when in such a case he treats by putting back into place a slipped, or twisted vertebra in the spinal column, that he has introduced into the system of the sufferer no foreign element, poisonous to its constitution, and destructive of its parts, that his method was not experimental, since he simply went to the affected part and by manipulation restored it to its proper position and condition: that his method was exact, and his procedure based upon an intimate knowledge of anatomy and physiology, and was therefore scientific: that his method restored parts to normal, and thus left no predisposition to the recurrence of the disease.

Sufficient has been said to show that osteopathy differs radically and entirely from schools of medicine, both in its point of view and in its method of treatment.

The fact that osteopathy has been remarkably successful in the treatment of diarrhea, flux, constipation, and kindred complaints, both acute and chronic, will indicate to the thoughtful reader that there must be something in its method, and that there must be something the matter with medical treatment, else how does it come that so very many chronic diseases are left by medicine for the osteopath to cure? The failures of medicine have made osteopathy necessary: Dr. A. T. Still, the discoverer, resolved upon finding a new method of healing only after spinal meningitis had robbed him of several beloved children.

Osteopathy's place in the world, and its success in filling it, are sufficiently attested by the multitudes who seek its treatment. Failures of medicine make osteopathy a necessity, yet the doctors of medicine fight to death the advocates of this new science who dare to cross their paths; not at first, no, not until the newly arrived osteopath has demonstrated his power to save life and has incidentally lessened the doctor's income. Then human life becomes a bagatelle, osteopathy is a humbug, and must down.

Such is the lucid explanation of osteopathy presented in this catalogue issued by the American School of Osteopathy, at Kirksville, Mo.

The catalogue shows that there are fifteen professors in the faculty, of whom four are members of the Still family. All of the faculty have the letters D.O. after their names, which is presumed to mean "Doctor of Osteopathy," but only three of them have M.D. after their names, to-wit: William Smith, M.D., D.O., professor of anatomy, symptomatology, obstetrics and venereal diseases; C. P. McConnell, M.D., D.O., theory and practice of osteopathy and osteopathic diagnosis; J. B. Littlejohn, M.A., M.D., professor of histology and minor surgery.

The proof shows that the visiting committee from the State Board of Health found that the institution was destitute of the essential equipment, apparatus, appliances and facilities of a college for teaching medicine and surgery or any healing art. For instance, in the room of said institution for teaching anatomy the proof shows that plates were used with a mummyized cadaver which was kept constantly on hand, and which had been rendered so hard by the process of embalming that nothing but a cold-chisel could make an impression on it. A painted wooden Indian used for a cigar store sign would answer the purpose for demonstrating anatomy just as well.

ABOUT PROFESSOR WILLIAM SMITH, M.D., D.O.

Dr. William Smith, the professor of anatomy, the proof shows is the pride and flower of the faculty. He was born in Jamaica, and educated in Scotland. He visited many medical and surgical institutions in foreign countries, and after graduating abroad came to this country and entered upon the profession of a drummer. He testified that in his travels as a drummer he met Dr. A. T. Still, which resulted in his conversion from a drummer into a doctor of osteopathy. This Dr. Smith, the proof shows, is under several indictments in the City of Chicago for felonies; that he has also been indicted in Adair County, Missouri, in which county the American School of Osteopathy is located, for felony. The indictments are still pending against him. The proof shows that $500 reward was offered for him by the governor of Illinois, and he testifies that he procured the indictments against him in Missouri to prevent his being extradited and carried back to Chicago as a fugitive from justice.

On cross-examination the following questions were put to Dr. Smith:

Q.—You say you began the study of medicine in 1880 in the University of Edinburgh, Scotland, and attended college until in 1884; have you a diploma from that school?

A.—I have not for the reason that after having a difference of opinion with one of the professors I concluded to leave, was not requested or ordered, but did so of my own free will.

Q.—You say you went to Manchester and attended Victoria University (Owens College) until 1887; have you a diploma from this school?

INFECTED WITH SYPHILIS.

A.—My sole reason for going to Manchester was that in the latter part of 1884 I was infected with syphilis while working in the venereal wards of the Royal Infirmary. I only attended Owens College not to *waste* time, had no idea of graduating from the school, never even matriculated there, simply attended classes and read, and when my syphilis was over, returned to Edinburgh and began work on the subjects for final examination in the other school of medicine in that town.

Q.—What colleges did you attend subsequently and did you procure a diploma therefrom?

A.—I attended the Royal College of Physicians and Surgeons, at Edinburgh, and after examination by the examining boards of those colleges and the faculty of Physicians and Surgeons at Glasgow, was granted a diploma by the three boards, in January, 1888. I was living at home and did not care to remain home during the infective period of my syphilis and so lived in the other town (Manchester) for fear of inadvertently conveying the disease to any of my family.

Q.—Where is the diploma that you secured from the Royal College of Physicians and Surgeons and the other college spoken of?

A.—That diploma is in the possession of Messrs. Carroll, Turner and Kirwan, New Houseman Building, Grand Rapids, Mich., as one of the productions in a libel suit which I have instituted against Messrs. Parke Davis & Company, and William M. Warren, proprietors and publishers of a paper called the *Medical Age*, which stated that I was an unqualified man and a fraudulent character. The diploma was procured by me in order to secure permission to practice in this state, and my state certificate has been duly recorded in this town as required by the law of 1883.

Q.—You say, Doctor, that you became, while in Edinburgh, licentiate in midwifery; by whom was this degree conferred on you and when?

A.—By the same examining boards on the same date, the certificate being signed by the president and secretary of each of the colleges named; that certificate also is in Grand Rapids, Mich.

Q.—After receiving your certificate from the Royal College of Physicians and Surgeons, what course did you pursue toward entering into active practice of your profession?

A.—I went to Midcalder, twelve miles from Edinburgh, and *bought* practice of Dr. Walter Watson, paying him $2000. I practiced there for two years and nine months, worked so hard in building up the practice that I broke down my health; the practice had grown to such an extent that I sold it for $4000 and came to this country. I secured a position with Messrs. A. S. Aloe & Co., as traveling salesman, and while acting in this capacity, six weeks after entering into their employment, met Dr. Still in Kirksville, and at his request, after investigating his claims for his new work, decided to learn more of it, and so joined him in July, 1892.

Q.—Give the names of the faculty of the American School of Osteopathy in 1896, at the time or before Dr. Harry Nelson graduated.

A.—Dr. A. H. Sippy, Dr. Alice Patterson, C. E. Still, C. P. McConnell, A. T. Still, myself and Dr. S. S. Still; that was the faculty to the best of my knowledge and belief.

Q.—Doctor, I will ask you whether in January, 1898, in Cook

County, Illinois, you were not indicted for obtaining dead bodies contrary to the laws of Illinois, the offense said to have been committed on Oct. 24, 1897?

A.—I have no knowledge of said indictment, never having been served with same, but I have every reason to believe that your information is correct.

Q.—State whether or not at the 1897 term of the criminal term of the Cook County, Illinois, grand jury, in conjunction with Henry Ulrich and John Ludes, said to have been committed on Dec. 1, 1897, contrary to the laws of Illinois, you were indicted for burglary.

A.—Same answer as to the preceding question.

Q.—State whether or not you were indicted in December, 1897, criminal court of Cook County, Illinois, with Henry Ulrich and John Ludes for burglary, said to have been committed on Dec. 1, 1897?

A.—Same answer as question No. 30.

Q.—State whether or not you were indicted in the criminal court of Cook County, Illinois, January, 1898, with James Carter and Thomas Furey, for unlawfully and feloniously securing from one Joseph Raufcisen, certain personal property and money and conducting and running a confidence game, said to have been committed on Jan. 1, 1898.

A.—With regard to the first few charges as to the Chicago bodies, I have reason to believe that I was so indicted and will explain the circumstances connected with the same. This last charge is somewhat of a surprise, as I knew none of the gentlemen mentioned. For the guidance of the examining attorney, and to save his time, I may state that I have nothing to do with the assassination of President Lincoln, the blowing up of the *Maine*, a rape on the person of the president of the State Board of Health, or any other crime of which he or anybody else may have either heard or dreamed. With regard to Questions 30, 31 and 32, I file Exhibit 3 and beg to add that these indictments were simply an attempt at persecution by the president of the County Board of Cook County, whose irregularities had been exposed, and that the governor of this state, on presentation to him of the true facts in the case, stated to me personally that he not only would not honor the requisition, but would see that I was protected from any attempt to get me into Illinois to make me a scapegoat for the offenses of another man. The result of the matter has been that the president of the County Board lost his position, did not receive the nomination for sheriff for which he was working, and I have received offers of absolute protection if I will go to Illinois and expose in full the plot against me. I require bodies for dissection and procure them exactly as does every other demonstrator of anatomy.

Q.—Doctor, is it not a fact that these indictments are all pending in Cook County, Illinois, and have never been dismissed?

A.—I do not know, and I do not care.

Q.—Were you not indicted in Adair, that is your own county, Adair County, Missouri, for perjury, and is it not a fact that this indictment is still pending?

A.—Certainly not.

Q.—Is there any indictment pending in this county, if so for what crime, and when is it said to have been committed?

Objected to.

A.—Certainly not.

Q.—Did you not tell Dr. McCormack and myself, as we were leaving the building this morning, that you had an indictment preferred against you through the assistance and collusion of a student of this college?

A.—I did. That indictment was preferred against me at the time when the second requisition was presented to Governor Stephens. I was afraid the governor might weaken and allow me to be taken. I wished to hold myself in Missouri until I could present to him further evidence, if it were necessary to do so. Governor Stephens' standing to his guns made any following up of the matter unnecessary, and of course, there was no prosecution. I am perfectly willing that any reputable citizen in this town be asked for his opinion of my personal character and reputation during the two years and a half during which I have been constantly under public observation.

Q.—What other schools of osteopathy are located in this town other than the American School of Osteopathy?

A.—A man named R. M. Brashear possessed some farm land on the outskirts of town; he desired to sell building lots, and so induced an osteopath to join with him in founding the great "Columbian School of Osteopathy," medicine and surgery. Its students are mainly derived from those who can not pass the entrance examination of this school, as they are taken in there without any qualification. Also those who are devoid of funds, as in order to get students they have been taking them without money and without price. The institution has been in existence rather less than twelve months, and my opinion is it will be for sale in less than three more.

Q.—Who is this osteopath that is assisting this farmer in disposing of his land in building lots?

A.—M. L. Ward. A man who has buncoed Dr. A. T. Still into believing him a man of good reputation, and who, I am informed, was turned out of this institution for financial irregularity. He held the position of vice-president under the first charter of this school for eight months.

Q.—Is it not a matter of fact that the American School of Osteopathy and the Columbian school have runners out on the street at the depots and in the hotels, with the names of the institutions tied acros their hats, ready to guide patients to their respective infirmaries?

A.—I direct attention to the page immediately preceding the frontispiece of Exhibit 2, to the mark "W. S."

Q.—I will ask you the full name of the author of the book known as "Osteopathy Complete," which upon direct examination you stated was not considered a standard text-book, and whose name I believe you stated was Barber?

A.—His full name is Elmer D. Barber. The book is not recognized, for the reason that osteopathy can not be acquired from a book. It is possible that much in that book may be correct, but I know nothing about it.

Q.—Is it not a fact that Elmer D. Barber is a graduate of the American School of Osteopathy, graduating therefrom in 1885?

A.—I believe that that is correct.

Q.—On direct examination you stated that you attempted to suppress the school conducted by E. D. Barber at Kansas City, Mo., by representing yourself to him under an assumed name?

A.—I introduced myself as a Dr. Stuart, told him fairy tales, told him straight out that I wanted to buy a diploma and se cured it.

Dr. Smith testifies further that osteopathy and osteopathic treatment "depend essentially upon manipulation directed toward improving the circulation and the correction of structural abnormalities; that the main feature of osteopathic treatment "is the direct stimulation or inhibition of nervous impulse," . . . that he "has seen hundreds of cases stated by physicians of the regular schools to be incurable cured by osteopathic treatment," and emphasizes one particular case, of a student, who, according to his testimony was then in the American School of Osteopathy, whose case was sworn to by six of the best surgeons in Memphis, Tenn., as being incurable, they swearing, he says, that the said patient would never be able to walk again. "That man," he testifies, "now walks where he likes without crutches and with no abnormality in gait." It may be remarked in passing that the name of this patient is not given nor is his testimony taken in this case.

TEACHERS ALL PROFOUNDLY LEARNED.

Dr. Smith also testifies that all of the professors in the American School of Osteopathy are men of profound learning, skill and honor; that the term of study at college is twenty months, that the tuition is $500 each, and that there are over five hundred and fifty students at said institution. . . . that the *A. T. Still Infirmary* is a separate, private corporation, closely connected with but separate from the American School of Osteopathy at Kirksville, where patients are treated by the students of the American School of Osteopathy under the operators of the *A. T. Still Infirmary*, and that in said infirmary there are from three to five hundred patients; that A. T. Still has very little to do with the management of the school, but that the financial affairs of the said institution are left in the hands of the trustees of the said American School of Osteopathy, composed, as we have seen, of A. T. Still and his sons and daughter, and that they meet monthly. Dr. Smith further testifies that the plaintiff in this case, Dr. Nelson, graduated at the American School of Osteopathy at a time when there were only about fifty students at said institution, and when surgery was not taught when chemistry was limited to uranalysis; and that histology was then taught by the stereopticon, and at that time there was no microscopic department in said institution, nor was public health, psychology or medical jurisprudence taught therein. Yet he testifies as follows: "A man could get, with the limited means at our disposal as good an osteopathic education at *that time* as he can *now*."

Prof. J. M. Littlejohn testifies that he is dean of the faculty of the American School of Osteopathy; that he has charge of the department of physiology and psychology, and that he is not a graduate of any school of medicine. He further testifies that he knows of no cure from personal experience of any case that has been pronounced incurable which was subsequently cured by osteopathy. This does not harmonize with Dr. Smith's testimony as to the five hundred remarkable cures.

Prof. C. P. McConnell testifies that osteopathy is based upon manipulation, and that manipulation is the main osteopathic treatment given to the afflicted and sick.

These different professors in the American School of Osteopathy each and every one of them reciprocally testify to the learning, skill, enterprise and honor of each other, and they make no exception of Professor Smith. They all testify that they are believers in the science of osteopathy.

Professor McConnnell further testifies that the methods practiced by Dr. Nelson, the plaintiff in this action, represent the true fundamental principles of osteopathy. He testifies that he knows the etiology and pathology of measles, scarlet fever, diphtheria, and all the catalogue of diseases mentioned, and that the osteopathic treatment of all of said diseases is manipulation, but he positively refuses to tell how the manipulation is applied in any case. He says that Dr. Barber, the president of a school of osteopathy at Kansas City, Mo., graduated at the American School of Osteopathy and holds a diploma from that institution, "that Dr. Barber's osteopathic character is that of an outcast."

It appears in proof that the chair of medical jurisprudence was established in 1898 in the American School of Osteopathy, and that this chair is filled by Judge Andrew Ellison, who had for many years been judge of that circuit in Missouri. In answer to Question 27, on direct examination the judge testifies that he could not from a scientific standpoint tell what is meant by the science of osteopathy, as it is taught by Prof. A. T. Still, nor what its fundamental principles are. The judge strongly disagrees with Professor Smith, Professor McConnell and others of the faculty who have testified in this case for the plaintiff, when he says in answer to direct Question 28, whether osteopathy as practiced by Dr. Still was not a means

employed to heal the sick by manipulation. I would say most assuredly and emphatically not." He also disagrees with Professor Littlejohn upon this subject and with Dr. Nelson, the plaintiff. In answer to Question 29, the judge says that at first seeing the cures in the institution he thought it was a *special gift of Dr. Still*, but seeing convinced him that it was not only curative but thoroughly scientific. Yet the judge says he knows nothing about its principles nor what osteopathy is from a scientific standpoint. *Quo magis nesciunt eo magis admirantur.*

The judge says he is a friend of the American School of Osteopathy, and of the citizens of Kirksville, who have been so much benefited by the location of that school in their town. He further testifies that he had delivered an address to the graduates of the school, and that he went down to the capital of the state, along with other good citizens and helped to get a bill through the legislature chartering the institution, and in January, 1899, he became the attorney for the institution.

Dr. Arthur G. Hildreth, a witness for the plaintiff, testifies that he is an osteopath and a graduate of the American School of Osteopathy at Kirksville, Mo., and that he knows Dr. Nelson . . . that the basis of osteopathy is manipulation. . . . that diphtheria is treated by manipulation from an osteopathic standpoint . . . that he knows nothing of antitoxin or the treatment of diphtheria with antitoxin . . . that he treats cerebrospinal meningitis by manipulation and that he treats acute inflammatory rheumatism of the knee-joint, peritonitis and appendicitis by manipulation.

OSTEOPATHY CURES EVERYTHING BUT CANCER, SYPHILIS AND CONSUMPTION.

The plaintiff, Dr. Nelson, testifies that osteopathy cures all diseases except cancer, syphilis and consumption; that he treats Bright's disease and diabetes by manipulation, stimulating the "renic splanchnic;" that he treats diphtheria by manipulation, stimulating the vasomoter center in the back of the neck, and by putting the finger down the throat of a patient and manipulating the soft palate or fauces; that the treatment of scarlet fever, lockjaw, milk leg, varicose veins, dropsy, retention of the urine, piles, fistula in the rectum, anal fissure, acute rheumatism, hip-joint disease, simple, benignant and malignant tumors, chronic syphilis, eczema, shingles, carbuncles, bones, felons, bruises, puerperal convulsions, flooding after child-birth, laceration of the cornea of the eye, *all* by manipulation, but he refuses to state how or in what manner this manipulation is applied.

The other expert osteopaths, witnesses for the plaintiff, explain the method of manipulation by excitation of the vasomotor center in many diseases, but for the most part, in reference to all the maladies in the catalogue of diseases propounded to them in the interrogatories, they say they treat by manipulation, but they refuse to tell how they exert or apply said treatment.

All the expert witnesses for plaintiff, including the professors of the American School of Osteopathy who have been examined, testify that *manipulation* and not medicine or surgery constitutes the science of osteopathy. And here it is worthy of note that none of the Still family, the discoverer of osteopathy, and his sons and daughter, who constitute the board of trustees of the American School of Osteopathy, have testified in this case.

The evidence of all the witnesses for plaintiff conclusively establishes the fact that osteopathy is simply treatment of diseases by manipulation, and that doctors of osteopathy are simply masseurs, that is manipulators. Nor can it be disputed that in many nervous diseases massage treatment is beneficial.

Plaintiff has introduced several witnesses, not experts, who have received this massage treatment called osteopathy, among them the Hon. Frank Parsons, who was treated by him for waxen kernels in the throat. He testifies that the plaintiff manipulated the kernels in his throat with his thumbs and fingers around and about his face and neck and did him much good. So Mrs. Samantha Field was treated by the plaintiff for neuralgia, and she thinks Dr. Nelson has cured her. Mrs. Fannie McKay Perry was treated by plaintiff by manipulation for liver and stomach trouble, and for tonsillitis, and she says he cured her. Mrs. Perry further testifies that the plaintiff cured her little daughter of malarial fever and her aged mother of rheumatism, by manipulation. She says there was no medicine given and no surgery practiced by him. Mr. Price and Mr. Longest, witnesses for plaintiff, both of whom were suffering from nervous troubles, testify that they were treated by Dr. Nelson by manipulation and were greatly benefited. Mr. Price testifies that he had tried "Christian Science" and faith cure, and that the massage treatment of plaintiff did him more good than either of the other treatments.

It appears in evidence that when the plaintiff, Dr. Nelson, took his osteopathic course and graduated at the American School of Osteopathy, the only graduate of medicine in the faculty was Professor Smith, whose testimony has been referred to *supra*. At that time physiology and pathology were taught in said school only with charts and manikins. Neither clinics nor surgery were taught at that time in said institution.

The foregoing are all the witnesses who have testified in this case for the plaintiff.

WHAT OSTEOPATHY REALLY IS.

The first witness for the defendant is Dr. Arthur T. McCormack, inspector for the State Board of Health, an educated physician. He testified that he has visited and examined all of the principal medical colleges and hospitals in the United States, and that he visited the American School of Osteopathy at Kirksville, Mo., for the purpose of ascertaining the true character of that institution as a school of medicine and surgery. He testifies that when he visited that institution Dr. Smith was professor of anatomy, and demonstrator of surgery, and that he taught and demonstrated those sciences by throwing pictures of the parts of the human body, by means of an acetylene gas lantern, on a screen, and that they had only one cadaver, which was by the embalming process rendered so hard that it was useless for anatomic analysis, and that the only way of making an impression upon it was with a cold-chisel. He testifies that the tables and plates and apparatus and appliances of every kind in the histologic department showed that histology was not taught in said institution, but that it was only a false pretense—the claim that they taught it; that the facilities and equipment of said institution were wholly inadequate for the purpose of teaching medicine and surgery, and were a mere makeshift.

PRESIDENT MATHEWS UNDERSTANDS OSTEOPATHY.

Dr. J. M. Mathews, a practicing surgeon in this city for seventeeen years, professor of surgery in the Kentucky School of Medicine, and president of the AMERICAN MEDICAL ASSOCIATION, and president of the State Board of Health, testified that he understands the theory and practice of osteopathy, and that osteopathy is not a system for curing diseases, and is to be feared for dangerous results which would naturally be caused thereby. He heard the plaintiff, Dr. Nelson, testify in this case as to the proper mode of treating diseases osteopathically; that the osteopathic treatment of diphtheria as testified to by the plaintiff, Dr. Nelson, could not possibly do any good, and would kill a majority of the patients receiving it. He testifies that it is impossible to detect albumin in the urine by the sense of smell, as Dr. Nelson states in his testimony is the way he discovers it. Dr. Mathews further states that manipulation of the body, intead of being a cure for Bright's disease and diabetes, and of scarlet fever, appendicitis, retention of urine, and the other diseases which Dr. Nelson testifies could be cured by manipulation, would do the patient no good, but, on the contrary, positive harm. He says the osteopathic treatment testified to by Dr. Nelson as a system is very foolish, and would likely kill patients rather than benefit them.

Dr. J. M. Bodine, a practicing physician of forty years in this state, and the professor of anatomy in the Kentucky School of Medicine for four years, and for thirty-six years in the medical department of the University of Louisville, president of the American Medical College Association, president of the Southern Medical College Association, and president of the Association of American Medical Colleges, testifies that he has investigated osteopathy, and understands in the main the views and methods of its disciples. He testifies that he was one of the investigating committee sent by the State Board of Health of Kentucky to the American School of Osteopathy at Kirksville, and made an examination of said institution and of its teaching. Dr. Bodine testifies that it would be dangerous to the people of Kentucky to license osteopaths from said institution to practice medicine in this state. He says that "osteopathy is the *ne plus ultra* of absurdity;" that the doctrines and practices of osteopathy are utterly preposterous and would be dangerous and positively hurtful in most diseases to invalids who should receive such treatment. He says that in most of the diseases which the school of osteopathy claims to cure, manipulation would do no good on earth, but on the contrary would do harm, and in many cases likely kill its victims.

Dr. J. M. McCormack, of Bowling Green, a physician of distinction in this state, and a practicing physician for twenty-eight years, and secretary of the defendant, the State Board of Health, and who is a graduate of two medical colleges in this country, and a post-graduate in European colleges, testifies that he, in 1896, visited the American School of Osteopathy at Kirksville, Mo., and while there went over the entire school or college; was shown all of its appliances, apparatus and

facilities for teaching medicine and surgery, and that he made a complete examination of the equipment and teaching facilities of said institution with a view of determining whether or not said school was capable of preparing students for the practice of medicine and surgery. He testifies that they had no apparatus whatever, except a few skeletons and some anatomic plates, such as are used in our high schools; that the professor of anatomy of the American School of Osteopathy told him while there that they had never had a cadaver in the school, and only taught anatomy from skeletons and plates; that Dr. A. T. Still, the discoverer of osteopathy, and founder of the institution, and its present president, told him that he was a graduate of one of the old Kansas City schools, and that he graduated in the '40's, but that Dr. Still could not give the name of his alma mater, nor the year in which he graduated. Dr. McCormack further testifies that there were no medical schools in Kansas City in the '40's. He further testifies that he saw two osteopathic doctors treat a patient in Franklin, in this state, and that their treatment was a crude and rough form of massage, and would be positively dangerous as applied to many diseases which osteopathy professes to treat and cure. Dr. McCormack testifies that he has read the catalogues and magazines of the school of osteopathy, and that all osteopathic literature is nebulous and vague, and that the professors and students of the American School of Osteopathy neither teach nor study medicine; that the osteopathic treatment of diseases is positively and highly dangerous in most of the list of diseases which they profess to cure. Dr. McCormack further testifies that he heard Dr. Nelson's testimony in this case on the subject of his qualification and competence to practice, and also heard him state his mode of treating diseases, and that in his (Dr. McCormack's) judgment, to license Dr. Nelson would be dangerous to the health, limbs and lives of those citizens who might be treated by him in most instances.

Dr. A. Morgan Vance, an eminent surgeon of this city, who has practiced surgery here for twenty-five years, and is a specialist on joints and deformities, testifies that the practice of osteopathy is not only dangerous to the limbs and lives of the public, but in many instances is inhuman and barbarous.

Dr. William Cheatham, a distinguished specialist upon the eye, ear, throat and nose, testifies that osteopathy is very dangerous and injurious to the eye; and that the treatment of diphtheria by osteopathy would invariably kill the patient.

Dr. Chester Mayer, a learned homeopathic physician of this city, testifies that he has read up on osteopathy and its treatment of diseases, and that the whole osteopathic theory is contrary to accepted medical and surgical science, and it is dangerous in its application.

Dr. William Bailey, a forty-one years' practicing physician and a member of the State Board of Health, who is also professor of materia medica, therapeutics and public hygiene in the medical department of the University of Louisville, and for twelve years connected with the Hospital College, testifies that he understands osteopathy, that he has read what is called its literature, and that osteopathy, as taught and practiced by graduates of the American School of Osteopathy, unless administered under the supervision and direction of a person learned and skilled in medicine, would be of no benefit to a patient, but, on the contrary, would do great harm.

The foregoing is the testimony of experts for the defendant:

The undersigned, as a committee, pursuant to a request made by the Secretary of the Board of Health of Kentucky, visited Kirksville, Mo., on Nov. 5 and 6, 1897, for the purpose of examining into the status and teaching facilities of the American School of Osteopathy there located.

We found a building and appointments adapted to the teaching of anatomy, physiology, normal histology and chemistry. We found bones and diagrams; but no dissecting-room or physiologic laboratory, and were informed that the students were not accorded the privilege of dissecting the human body with the necessary accruing benefits of such work.

The histologic and chemical laboratories were well equipped with chemicals, microscopes, and other apparatus. All this relates to the study of the healthy man—there being no pathologic laboratory, pathologic specimens, bacterial cultures, charts or diagrams available for teaching pathology, and morbid anatomy.

Materia Medica, which embraces the knowledge of drugs and medicines, and therapeutics, which is their application to the cure of disease is repudiated by this school; its teachers claiming that in the treatment of disease the physician has no use for drugs and medicines, since the brain of every human being is a drug store ready to his hand. According to this school, *manipulation* may be relied on to the exclusion of all medicines, establishing therapeutic measures, and operative surgical procedures.

Without a dissecting-room, without the privileges of seeing and handling the muscles, vessels, nerves, glands, and viscera of the human body, the undersigned can not understand how the graduates of this school can have a practical knowledge of anatomy.

The faculty consists of fourteen teachers, one of whom only writes Doctor of Medicine after his name.

Thus we are presented with the surprising anomaly of a school assuming to teach the science and art of medicine by means of a faculty, who, with one exception, are not graduates of any medical school.

Respectfully submitted,
J. M. BODINE, M.D.,
Prof. of Anatomy, Med. Dept. Univ. of Louisville.
H. A. COTTELL, M.D.,
Prof. of Physiology, Histology, and Diseases of Nervous System, Med. Dept., Univ. of Louisville.
G. W. GRIFFITHS, M.D., Surg. Gen. K. S. T."

From all the testimony in this case by witnesses for the plaintiff and defendant, it appears that the whole arcana of osteopathy, in a nut-shell, is manipulation—massage. It has never been disputed, but, on the contrary, is shown by the proof that many nervous troubles of hysterical women, and indeed many peculiar nervous diseases of men may be greatly relieved by the soothing effect of manipulation or massage, causing rest and sleep to the patient. The fact is established upon the scientific authority of the witnesses for the defendant in this case, and is also attested by eminent American, English, German and French doctors. The testimony of the learned physicians and surgeons for the defendant in this case shows that massage is often a part of the medical treatment of the sick; that massage is taught in every reputable medical college, and school, in the country, and that in all towns and cities of any size or importance in the United States there are practiced masseurs who administer massage treatment to those afflicted with nervous diseases, under the direction of reputable physicians.

It is a fact that by certain physical manipulation of certain muscles, causing nervous reflex action, abnormal cataleptic conditions of the body and muscles may be temporarily produced, with corresponding abnormal states of the mind. This is the basis of hypnotism; but experience and science both attest the fact that hypnotism, however interesting and mysterious its phenomena, is utterly inefficient as a means of permanently relieving pain or remedying disease.

ANCIENT AND MODERN QUACKS.

From the time of the Hierophant of the Egyptian temples, down to the present time, various sects of pretended curers of human disease, without the aid of medicines, have appeared under as many various names, all claiming to have the power of healing through some mysterious agency of their own. They operate outside of the jurisdiction of science, and in a large measure rest their claims for success upon the credulity, imagination or ignorance of their victims. Experience has shown, however, that in all such instances they are quack curers, frauds and impostors. It is interesting to note the diversity of these various quack schools for healing human disease without the aid of medicine or surgery, and outside of the pale of science, that have appeared and disappeared at different times. There are mind cures, faith cures, prayer cures, mental science cures or metaphysical healing, the "Christian Science" with its absent treatment, and hypnotists, enchanters, diviners, alchemists, mystics, astrologers, magicians, soothsayers, telepaths—all claiming to possess miraculous gifts in the way of healing disease—the secrets of occult science, a kind of mystical knowledge—

Deep truths to others unrevealed,
Mysteries from mankind concealed.

through and by which they accomplish marvelous cures and miraculous healing of all the maladies to which the human family is subject.

In many instances these professors are enthusiastic, self-deceived visionaries, while in a great majority of them they are downright frauds, practicing upon the credulity, imagination and ignorance of their patients, for revenue only.

MESMERISM.

Anton Mesmer, the celebrated mystic of the eighteenth century, claimed to possess an occult force derived from the stars, which he exerted upon his patients by stroking their bodies with magnets. Gassner was a wonder doctor, a kind of wild medicine man or priest in Switzerland in the eighteenth century. He effected his cures alone and exclusively by manipulation. He was the first and original osteopath; and were he living could sue Dr. A. E. Still for infringing his patent, and pirating his trademark. After consulting with Gassner, Dr. Mesmer discarded his theory of siderial magnetism, and in Paris practiced upon his patients manipulation, aided by dim-lighted rooms and soft music. It is a historic fact that he greatly benefited many hysterical women and nervous men whom he treated by what he termed animal magnetism, which was simply massage. Upon investigation by a committee of physicians, members of the Academy of Science, appointed by the French government for the purpose of investigating Mesmer, his whole mesmeric system of manipulation was exposed and shown to be a downright system of charlatanry and jugglery, and Mesmer himself to be an empiric and impostor, and he was driven from France.

NECROMANCY.

Cagliostro was a transcendental medical necromancer of the eighteenth century, who met with great success as a healer, and established what he was pleased to call the "triumphant school of wisdom." He claimed to commune with the denizens of the celestial spheres, and to be able to evoke phantoms from the vasty deep. His two principal magic potions were *materia prima*, and *Egyptian wine*. By means of the first he transmuted all base metals into gold, and by means of the last tonic he restored youth and prolonged life indefinitely. He had a wonderful reign for a while, but at length was exposed as an impostor, driven out of France, and died in prison under an edict of the Pope.

For a hundred years the art of magic, which Byron terms "that accursed witchery of illiterate terms," was practiced by pretenders as a mode of healing the sick. Mark Twain, in the October number of the *Cosmopolitan* (see JOURNAL, Oct. 7, 1899, p. 930), has written an interesting scientific exposition of metaphysical healing known as "Christian Science," and shows that its fundamental principles rest upon the "immovable basis" of an "apodistical principle, to-wit, the relation of systematic duality to incidental deflection."

HYPNOTISM.

I find in the daily newspapers elaborate advertisements of hypnotism as an unique and exalted science. Prof. L. A. Harridan, of Jackson, Mich., in his advertisement of hypnotism, says: "It is as far above the natural sciences, valuable though they are, as mind itself is superior to the lifeless clods of earth. It contains powers and mysteries that are beyond the scope of any of them. It answers to interior yearnings and sympathies that have thrilled the race of men since this old world began. As geology pierces the rocks and astronomy soars to the stars, so hypnotism explores the depths and follows the empyrean flights of thought."

There also appeared last week the advertisement of Dr. John Alexander Dowie, of Chicago, a divine healer, and it appears that on November 1 of this year the doctor was mobbed in Chicago, and was rescued by the police after an all night hard fight.

So that it is not to be wondered at that miraculous claims in the art of healing are asserted by charlatans where they are productive of great profit to the propounders or professors of such systems. But it is the policy of Kentucky to exclude charlatanry and empiricism and quackery from the state.

DECISION.

From the testimony in the case, which I have gone over accurately, it is my opinion that as a matter of fact the American School of Osteopathy at Kirksville, Mo., is not a reputable medical college; and that the defendant in this action, the State Board of Health, has simply performed its duty in refusing to recognize the said school or its diplomas, and to license its disciples or graduates to practice their art in this state.

Out of forty-four states in the Union, it appears in evidence that only four or five states have authorized or allowed the disciples of osteopathy to practice their calling within their borders. In every state the right of an osteopath to practice his calling must depend on the statute of the particular state. In Missouri, where the American School of Osteopathy is chartered, it is enacted by statute that the laws applicable to medicine and surgery do not apply to them; and the testimony of the plaintiff's witnesses in this case shows that they do not teach nor profess to teach medicine and surgery in the American School of Osteopathy. How can it be called a *reputable medical college*, when its own professors repudiate and refuse to teach materia medica and therapeutics and chemistry and anatomy and physiology, and confine themselves *alone to manipulation*? Like the Rosicrucians of the seventeenth century, osteopathy claims to possess a secret gift or method of manipulation which their witnesses testify can not be learned from books, by which, however, they claim they can heal the sick. Their professors on the stand refuse to divulge what their methods or modes of manipulatory treatment are. Sorcerers and witches used love philters, incantations and magic talismans for healing the sick, but refused to divulge what the ingredients were, or how the talisman acted.

It is singular, indeed, that in an enlightened age like this such humbug schools and ignorant pretenders could find recognition by the laws of any state.

Let the injunction be dissolved and the petition dismissed.

STERLING B. TONEY, *Judge*.

Therapeutics.

Treatment of Measles.

The treatment of this disease should be preventive, hygienic and therapeutic.

In case of known exposure the patient should be isolated, in a large airy room if possible, where free ventilation is secured without draughts, the temperature of the room being kept at 65 to 67 F. The room should be moderately darkened and the bed so arranged that the face of the patient will not be turned directly toward a window, especially during the continuance of photophobia and conjunctival irritation. All superfluous hangings and furniture should be dispensed with. The covering of the patient should be light and comfortable, and plenty of water should be given when the patient is thirsty. The fluid ingested may be pure water, carbonated water, vichy, apollinaris or milk given cool, but not iced. Little food is required during the first few days, and what is given should be light and easily digested. With the decline of the temperature and the abatement of gastro-intestinal symptoms additions may be gradually made to the diet until the full finding of health is resumed.

During the illness the body of the patient should be frequently sponged with antiseptic solutions, such as solutions of boric acid, peroxid of hydrogen, 1 ounce to 1 quart of water, or the body anointed with carbolized oil or vaselin. During convalescence the patient should receive a warm bath daily, and when well enough to leave the room and go into the open air he should be warmly dressed, avoiding sudden changes of temperature. The therapeutic treatment in ordinary cases is very simple, merely endeavoring to prevent complications. Should nausea be troublesome bismuth subnitrate in full doses may be necessary; or milk and lime-water in small quantities given at frequent intervals will often prove beneficial. In severe cases it may be necessary to apply a sinapism over the "pit of the stomach."

Relief of constipation by simple warm enemata of soap and water, sweet-oil, or castor-oil, is preferable to the administration of cathartics, since they are liable to cause intestinal irritation and recession of the eruption.

When the cough is troublesome, various expectorant mixtures may be employed. The following have been recommended by different authorities:

℞ Tinct. aconiti rad.....m. xvi
Extracti ipecac fluidi.....ʒss
Tinct. opii deod.....ʒi
Aquæ, q. s., ad.....ʒii
M. Sig. Teaspoonful every two or three hours.
—*Louis Fischer.*

This prescription might be improved by modifying it as follows:

℞ Tinct. aconite rad.....m. v
Syrupi ipecac.....ʒiss
Tinct. opii camph.....ʒii
Aquæ anisi.....ʒi
Syrupi tolutani q. s., ad.....ʒii
M. Sig. Teaspoonful every half to one hour.
℞ Ammonii bromidi.....ʒss to ʒiss
Syrupi glycyrrhizæ.....ʒi
Decoct. althææ, q. s., ad.....ʒii
M. Sig. Teaspoonful every hour.
℞ Extracti hyoscyami.....gr. ii
Syrupi.....ʒiii
Aquæ destil., q. s., ad.....ʒii
M. Sig. A teaspoonful every two hours.
—*Widerhoffer.*

FOR DISTRESSING AND PERSISTENT COUGH.

℞ Antimonii et potassii tartratis.....gr. i
Potassii chloratis.....gr. x
Aquæ menthæ pip.....ʒiv
M. Sig. A teaspoonful every four hours until the expectoration is free.
Or
℞ Ammonii chloridi.....gr. xxx
Morphinæ sulphatis.....gr. i
Pulv. glycyrrhizæ rad.....ʒi
Aquæ.....ʒiv
M. Sig. A teaspoonful every four or five hours.
—*Carpenter.*

Caution.—To be given with watchfulness to very young children or the morphin reduced in amount.

Dr. Louis Starr advises, to quote his own words: "Early in the attack, while the temperature is elevated and the cough hoarse, citrate of potassium is useful as a febrifuge and relaxing expectorant. To a child 6 years old from one to two fluidrams of liquor potassii citratis should be given every two hours, and to this may be added 20 drops of paregoric and 5 or 10 drops of syrup of ipecacuanha if the cough becomes very troublesome and croupy—a tendency often exhibited during the first two or three nights of the attack. Later, as the cough grows loose, a stimulating expectorant should be substituted. The best of this class of drugs is chlorid of ammonium, which must be given in solution and in doses of 1 to 2 grains every second hour. As convalescence approaches, 1 grain of quinin may be given three times daily, either in solution or in chocolate tablets; sometimes, too, there is sufficient debilility to warrant the administration of moderate doses of whisky. Finally, a course of iron or of cod-liver oil—in tuberculous cases—is often necessary."

Not infrequently great benefit can be derived when the cough is not severe, by demulcent drinks, such as infusion of slippery-elm bark, flaxseed tea, or solution of gum arabic, to which lemon juice may be added to render it more palatable.

Dr. J. Lewis Smith says, in "Hare's System of Practical Therapeutics": "Since one of the most common and dangerous complications of measles is inflammation of the respiratory organs, local treatment directed to the chest is important if the bronchitis have more than the ordinary severity and the cough be frequent and painful. The chest, under such circumstances, should be covered by cotton wadding or thick flannel, over which, in cold weather, it may be best to apply oiled silk. Such applications increase the amount of eruption underneath, and a copious eruption tends to prevent the occurrence of capillary bronchitis and pneumonia. If the eruption be tardy in its appearance or indistinct, it is well to produce moderate counter-irritation over the chest by some gentle irritant upon the surface such as camphorated oil, to which in the older children, one-fifth or one sixth part of turpentin may be added, or the oleum caryophylli, ℥i, to oleum camphorati, ℥ii, may be employed."

Dr. Smith advocates the prompt application to the chest, anteriorly, laterally and posteriorly, of a light and thin poultice of equal parts of pulverized ginger and flaxseed, or of 1 part of mustard to 16 of flaxseed, between two pieces of muslin, made so moist that it wets the hands in holding, and covered by oiled silk or muslin, in cases where there is extension of the inflammation from the bronchial tubes into the alveoli.

Hot mustard foot-baths are extremely efficient in these cases, particularly when the eruption is delayed, appears irregularly, or retrocedes. Liquor ammonii acetatis, in doses of 1 or 2 teaspoonfuls every two hours, in sweetened water, is also of use.

Not infrequently at the height of the eruption the fever will demand attention, particularly where it is persistently high. Phenacetin may be given in doses of from 1 to 5 grains according to the age of the child, carefully watching the condition of the heart. Should the temperature not yield promptly to the antipyretic the remedy may be again administered within an hour or two.

Carpenter suggests the following for fever accompanied by headache and restlessness:

℞ Phenacetin ..... gr. ii
Caffeine citratis ..... gr. ¼
Salol ..... gr. ss
Sacchari albæ, q. s.
M. Sig. For one dose, and repeat as necessary.

If the patient is troubled with insomnia and great restlessness the following combination will be found useful:

℞ Extracti conii fluidi ..... m. i to ii
Sulphonal ..... gr. i to ii
M. Disp. in cap. No. 1.
Sig. Take a dose this size every two hours for three doses, preferably 6, 8 and 10 p.m.

Or

℞ Tinct. opii camph ..... m. x
Chloralamid ..... gr. v
Sodii bromidi ..... gr. vii
Syrupi tolu ..... m. xv
Aquæ anisi, q. s., ad ..... ℥i
M. Sig. Take one dose. The amount of the medicaments may be increased or diminished according to the age and condition of the patient.

By many physicians baths are preferred to antipyretics for the reduction of temperature. As to the method employed where the bath is resorted to, Dr. Starr says: "The child should be undressed as quickly as possible and then immersed in a bath of 90 F.; cold water is now rapidly added until the temperature of the bath is reduced to 80. After a sufficient intermission—usually five or six minutes—the body is quickly dried with a soft towel and the patient put back to bed between sheets. The effect of the bath is sometimes very powerful and the child remains livid looking and collapsed for some time. In such a case small doses of brandy must be given in warm milk at short intervals, and artificial heat applied to the feet."

When in doubt as to the advisability of using antipyretics or baths, Dr. Starr suggests moderately full doses of quinin sulphate. In his experience, when given by the mouth, or preferably by the rectum, in suppositories of two to four grains every three or four hours, it has frequently reduced the temperature, quieted restlessness, and produced sleep.

The condition of the eyes must not be overlooked. The eyelids should be washed every three or four hours with water as hot as can be borne, and afterward a few drops of a saturated solution of boric acid applied to the conjunctivæ.

FOR SEVERE CONJUNCTIVITIS.

In cases of severe conjunctivitis the following prescriptions may be employed:

℞ Zinci sulphatis
Morphinæ sulphatis, āā ..... gr. ss
Aquæ rosæ ..... ℥i
M. Sig. A few drops into each eye twice or thrice daily.

℞ Acidi borici
Aquæ (sat. sol.), āā ..... ℥iv
M. Sig. Wash eyes eight or ten times daily.

Or, should there be persistent discharge:

℞ Hydrargyri chloridi mitis ..... gr. x
Vaselini (white) ..... ℥iv
M. Sig. Apply to lids.

℞ Cocainæ hydrochlor ..... gr. i
Aquæ destil ..... ℥iv
M. Sig. Drop a few drops into the eyes twice daily.

The nose and throat should be thoroughly sprayed every three or four hours with some mild antiseptic solution, such as diluted borolyptol, glycothymolin etc.

Chronic Cystitis.

Dr. Hearn writes, in Dunglison's *College and Clinical Record*, that chronic bladder affections, in which the mucous membrane is depraved and there is frequent and difficult micturition, and perhaps prostatic enlargement in old men, are helped by the following:

℞ Ext. uvæ ursi ..... ℥vi
Tinct. hyoscyami ..... ℥ss
Tinct. opii camphorat ..... ℥iss
Liq. potassæ ..... ℥ii
Tinct. lupuli ..... ℥iii
Syrupi ..... ℥ss
Aquæ menthæ pip., q. s., ad ..... ℥vi
M. Sig. Two teaspoonfuls twice daily in water.

If the urine is alkaline, boric acid should be substituted for the liquor potassæ.

Prophylaxis of Gonorrhea.

Kopp's improved formula for prophylactic injections of protargol is given as follows in the *Muench. Med. Woch.*, of Dec. 12, 1899:

℞ Protargol
Tere c. glycerin, āā ..... parts xx
Aqua destil. (tepid), ad ..... parts lx
M. Rub the protargol and glycerin together in a bowl and add the tepid water, which dissolves them at once.

Treatment of Furunculosis.

Martin treats furunculosis of external origin by hot douches followed by washing with "black soap," ether and sublimate for eight to ten minutes a day. Brewer's yeast he finds remarkably beneficial in furunculosis of digestive origin. See JOURNAL, xxxiii, p. 176.—*Muench. Med. Woch.*, Dec. 12, 1899.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), Dec. 30, 1899.

1.—*Splenectomy, with Report of Two Cases. J. Wesley Bovée.
2.—*Pathology and Treatment of White Swelling of the Knee. A. B. Judson.
3.— Brief Report of Epidemic of Typhoid Fever in Worthville. N. C., During 1898. Charles C. Hubbard.

Boston Medical and Surgical Journal, Dec. 28, 1899.

4.—*Contributions to Surgery of Bile Passages, Especially of Common Bile-Duct. W. S. Halsted.
5.—*Unlooked for Dystocia in Certain Multiparæ. E. S. Boland.
6.— Case of Extraperitoneal Nephro-Ureterectomy for Tubercular Disease. Edgar Garceau.
7.—*Notes on Closure, by Buried Sutures, of Rents Which Implicate the Anal Sphincter. A. T. Cabot.
8.—*X-Ray Examinations for Life Insurance Companies. Francis H. Williams.

Philadelphia Medical Journal, Dec. 30, 1899.

9.— Rules Which Should be Observed by Editors and Publishers of Medical Journals. H. O. Hall.
10.—*Grave Secondary Anemia, Simulating Progressive Pernicious Anemia. J. M. DaCosta.
11.—*Case of Successful Suture of Vas Deferens Divided in a Hernia Operation. John B. Roberts.
12.—*Significance of Bovine Tuberculosis and Its Eradication and Prevention in Canada. J. George Adami.
13.— Further Thoughts on Silver Nitrate Injections in Treatment of Pulmonary Phthisis. Thomas J. Mays.
14.— New Pile-Clamp. Arthur E. Hertzler.
15.— An Obstetric Tricyclic Calendar. Wm. L. Kantor.
16.— Case of Tetanus Successfully Treated with Antitetanic Serum. E. B. Adams.
17.—*General and Local Infection by Bacterium Coli, with Report of Cases. J. N. Hall.

Medical Record (N. Y.), Dec. 30, 1899.

18.—*Etherization: Means Whereby the Quantity was Reduced from 1000 to 100 Grams per Hour; with Especial Reference to Position of Head as Affecting Respiration. A. Ernest Gallant.
19.—*Treatment of Serous Effusions. Charles H. Lewis.
20.— Considerations on Prophylaxis of Glanders in Havana. Enrique Acosta and J. N. Davalos.
21.— Case of Subcutaneous Craniotomy. Sidney F. Wilcox.
22.— Jequirity in Treatment of Trachoma. R. H. T. Mann.

Maryland Medical Journal (Baltimore), Dec. 30, 1899.

23.—*Some of the Dangers of the Market. Mary Sherwood.
24.— Inflation and Medication of Middle Ear in Non-Suppurative Otitis Media. E. Oliver Belt.
25.— Free Use of Drinking Water in Acute Hemorrhage. Louis Kolipinski.

New York Medical Journal, Dec. 30, 1899.

26.—*Tubercle Germs and Giant Cells in Human Tissue. Philip Daggett Bouland.
27.—*Arrangement of Gastric Instruments Devised to Facilitate the Physical Examination of the Stomach and Its Treatment. Charles S. Fischer.
28.— Some Practical Notes on Diseases of the Rectum. Lewis H. Adler.
29.— Diphtheria: Remarks on Clinical Diagnosis and Treatment. Herman B. Sheffield.
30.—*Surgical Treatment of Phthisis. Walter C. Wood.
31.—*Mastoiditis: Importance of Early Surgical Treatment. James Francis McCaw.
32.—*Heroin in Affections of Respiratory Organs Henry D. Fulton.
33.—*Diet in Typhoid Fever. Edward Speidel.
34.—*Examinations of Urine in Epilepsy. Edwin G. Klein.

Cincinnati Lancet-Clinic, Dec. 30, 1899.

35.—*Experimental Research into Cause of Phenomena Attending the Inhaling of Hot Air and Flame. George W. Crile.
36.— Ophthalmic Memoranda: Ocular Affections in the Negro. David DeBeck.

Medical Review (St. Louis, Mo.), Dec. 30, 1899.

37.—*Four Cases of Tetanus Treated by Carbolic Acid Injection, at the St. Louis City Hospital. H. M. Neitert and R. F. Amyx.

North Carolina Medical Journal (Charlotte), Dec. 5, 1899.

38.— Gastrostomy for Traumatic Stricture of Esophagus: Report of Case. George Ben Johnston.
39.— Note on Reasonable Control of Tuberculosis. Carroll E. Edson.
40.—*Alexander Operation in Retrodeviations of Uterus. Hugh M. Taylor.

Northwestern Lancet (St. Paul, Minn.), Dec. 1, 1899.

41.—*Primary Treatment, Improper and Proper, of Lacerated and Contused Wounds of the Hands and Feet. Walter Courtney.
42.— Suppurative Disease of Accessory Cavities of Nose. Their Symptomatology and Diagnosis. C. E. Bean.
43.— Life on the Army Transport. H. P. Ritchie.

Medical Fortnightly (St. Louis, Mo), Dec. 15, 1899.

44.—*Pus Involving Pelvic Viscera and Adjacent Structures. W. C. Bogart.
45.—*Temperament and Disease, or "The New Humoral Pathology." Albert E. Sterne.
46.—*Report of Eight Cases of Diphtheria Occurring in One Family. H. C. Campbell.

Annals of Gynecology and Pediatry (Boston), December, 1899.

47.—*Neuroses of Menopause Caused by Intestinal Fermentation. Charles J. Aldrich.
48.—*Surgery in Its Relation to Female Pelvic Organs. John B. Wheeler.
49.— Some Practical Experience in Asepsis and Antisepsis in Obstetrics. Douglas Ayres.
50.— Report of Case of Puerperal Sepsis and What It Teaches. Charles H. Glidden.
51.—*Eclampsia. F. L. Brigham.
52.— Typhoid Otitis. Charles H. Painter.
53.— Case of Cystitis of Long Standing, Complicated with Chronic Malaria Together with Sluggish Liver and Habitual Constipation. J. W. Walker.
54.— Clinical Study of Lymphatic Glands in 100 Cases of Scarlet Fever. Jay F. Schamberg.
55.—*Puerile Indigestion. F. C. Morgan
56.— Indigestion in Infants and Children. James H. Taylor.

Richmond Journal of Practice, November, 1899.

57.—*The Alexander Operation in Retrodeviation of the Uterus. Hugh M. Taylor.
58.—*A Perfect Antidote for the Poison of Snake and Spider Bites. S. T. A. Kent.

New England Medical Monthly (Danbury, Conn.), December, 1899.

59.— Treatment of Constipation. J. M. Mathews.
60.—*Reconstruction of Pelvic Structures Incident to Lesions of Peritoneum. H. O. Marcy.
61.— Some Remarks on Choice of a Reconstructive Agent After Severe Hemorrhage. E. E. Hutchins.
62.— Who Shall Operate? What Shall the Patient Pay? Robert T. Morris.
63.— Chronic Dyspepsia Successfully Treated with H_2O_2. George A. Gilbert.
64.— Some Notes on Uric Acid as a Cause of Gastric Disorders. Wm. H. Murray.
65.— Implantation of a Glass Ball into the Orbital Cavity. L. Webster Fox.
66.— Medical Expert Testimony. Geo. L. Porter.
67.— Alopecia. L. Duncan Bulkley.

Railway Surgeon (Chicago), Dec. 26, 1899.

68.— Thoughts Relative to Needs of Our Railway Surgeons' Association and the Betterment of Our Surgical Work. H. L. Getz.
69.—*Compound Traumatic Separation of Lower Epiphysis of Femur. Gilbert Geoffrey Cottam.
70.— Head Injuries. William Jepson.

Ophthalmic Record (Chicago), December, 1899.

71.— Thrombosis or Embolism of the Central Artery of the Retina after Ligation of the Vessels of the Neck. H. Gifford.
72.— Simple Eye Shade. S. Mitchell.
73.—*Two Cases of Methyl Alcohol Amaurosis from Inhalation of the Vapor. R. S. Patillo.
74.— Case of Obstructed Retinal Circulation, with a Series of Pictures Showing the Changes in the Vascular System During its Re-establishment and the Formation of New Vessels in the Retina. Swan M. Burnett.

Virginia Medical Semi-Monthly (Richmond), Dec. 8, 1899.

75.— Further Observations on Hay-Fever. John Dunn.
76.— Gastric Lavage. Robert F. Williams.
77.—*Examination of Blood in Surgical Diseases. H. Stuart MacLean.
78.— Blood Examination as an Aid to the Surgeon. E. C. Levy.
79.— Should Reputable Physicians Encourge the Use of Secret or Semi-secret Proprietary Medicines? Bittle C. Keister.
80.— Recent Work on the Etiology of Malaria. William S. Thayer.
81.— Vagaries of Fever as They Occur in the Mountains of Virginia. R. M. Wiley.
82.— Scarlet Fever. Thomas N. Vincent.
83.— Case of Gunshot Wound of the Knee-Joint. Llewellyn Eliot.

Therapeutic Gazette (Philadelphia), Dec. 15, 1899.

84.—*Prevention and Treatment of Puerperal Eclampsia. Edward P. Davis.
85.—*Treatme t of Eclampsia. James Clifton Edgar.
86.—*Treatment of Puerperal Eclampsia. A. F. A. King.
87.—*Treatment of Puerperal Eclampsia. Edward Reynolds.
88.—*Treatment of Eclampsia. Richard C. Norris.
89.—*Prognosis and Treatment of Nephritis. H. A. Hare.
90.— Anesthetics, Local and General, as Applied to Taxis, Herniotomy, and Operations for Radical Cure of Hernia. J. Coplin Stinson.
91.—*Treatment of Gonorrhea in Women, with Special Reference to Urethritis. G. E. Shoemaker.

Medical Age (Detroit, Mich.), Dec. 25, 1899.

92.— Temperance Question in the Army. W. L. Parker.
93.— Late Ideas Regarding Surgical Antisepsis. A. G. Ellis.
94.— Women with Multiple Cardiac Lesions, Complicated with Serious Intra-Abdominal Trouble, Possibly due to Paracentesis—The Paracentesis Followed by a Change in the Ratio of White Corpuscles to Red. Wm. Pepper.

Laryngoscope (St. Louis, Mo.), December, 1899.

95.— Review of Present Position of Intratympanic Surgery in Chronic Suppurative Otitis and in Sclerosis of the Middle Ear. Gherardo Ferreri.
96.—*History and Discussion of a Case of Menière's Syndrome. Heber N. Hoople.
97.— New Nasal Septometer. Edwin Pynchon.

St. Louis Clinique, December, 1899.

98.— William Cullen. James M. Ball.
99.—*Clinic Notes. O. F. Baerens.
100.— Tuberculosis and Its Rational Treatment. M. E. Chartier.

101.— Use of Fats in Wasting Diseases. C. W. Lillie.
102.— Treatment of Hysteria, with Reports of Cases. Milton P. Creel.

Buffalo Medical Journal, January.

103.—*Etiologic Relation of Autointoxication and Autoinfection to Diseases of the Eye. Alvin A. Hubbell.
104.—*Hygiene of the Asthmatic. George N. Jack.
105.— Some of the Causes and Effects of Mouth Breathing. J. M. Ingersoll.
106.—*Resuscitation of Apparently Dead Newborn by Labrode's Method. Francis Eustace Fronczak.
107.— Cephalagra and Tic-Douloureux from Accessory Sinus Affection. S. F. Snow.

Inter-State Medical Journal (St. Louis, Mo.), December, 1899.

108.— Discussion of General Meningitis. T. Brooks.
109.— Some Gall-Stone Cases. S. P. Schroeder.
110.— Treatment of Erysipelas. David S. Booth.
111.—*Scholastics and Mystics. James M. Ball.

Cleveland Journal of Medicine, December, 1899.

112.—*Habit-Disease and the Tobacco Habit. George M. Gould.
113.—*Clinical Fragments. G. W. Crile.
114.—*Obstipation and Its Radical Treatment. Thos. Chas. Martin.
115.—*Disinfection in Smallpox. John L. Hess.
116.— Two Cases of Chronic Morphinism Complicated with Chronic Alcoholism. Austin J. Pressey.
117.— Case of Submucous Myoma. Hunter Robb.

American Journal of Surgery and Gynecology (St. Louis, Mo.), December, 1899.

118.—*Operation on Cervical Ganglia of Sympathetic for Epilepsy, Glaucoma and Exophthalmic Goiter. Emory Lanphear.
119.— Practical Value of the Urethroscope. F. Kreisll.
120.— Profuse Diarrhea Twelve Hours Following Laparotomy. C. G. Levison.
121.—*Complete Prolapse of Ovarian Tumor Through the Anus; Operation; Recovery. J. H. Baughman.
122.— Syphilitic Stricture of Rectum. Joseph M. Mathews.
123.— Report of a 94-Pound Ovarian Cyst. W. M. Mayfield.
124.— Surgery as a Business. C. P. Thomas.
125.— Report of Some Unusual Cases. Wm. Bradford Craig.
126.— Treatment of Septic Infections Following Pin-pricks, Abrasions and Similar Injuries. Edward H. Ochsner.

Occidental Medical Times (San Francisco), Dec. 15, 1899.

127.— State Requirements for Admission to Practice of Medicine. A. M. Henderson.
128.— Medical Practice in Gautemala. W. H. Wentworth.
129.— Pleuritis. J. S. Adams.

Peoria Medical Journal, January.

130.— Eye Strain as a Cause of Headache and Other Nervous Manifestations. Charles D. Thomas.
131.— Chronic Bright's Disease. I. F. Harter.
132.— Medical Organization. James Tweddale.

Medical and Surgical Bulletin (Nashville, Tenn.), December, 1899.

133.—*Presidental Address, Middle Tenn. Med. Soc. M. C. McGannon.
134.— Hydrotherapy. L. L. Sheddan.
135.—*First Attention to Injured Eyes. George H. Price.
136.— Auto-Intoxication. L. E. Ragsdale.
137.— Septic Wounds. C. N. Cowden.
138.— Puerperal Eclampsia, with Report of Cases. Reginald Stonestreet.

Georgia Journal of Medicine and Surgery (Savannah), December, 1899.

139.— Cancer. Hugh M. Taylor.
140.—*Four Recent Cases of Gall-stones with Remarks. Hunter McGuire.
141.— Therapeutic Value of Hypnotism. Jno. R. Rose.
142.—*Perfect Antidote for the Poison of Snake and Spider Bites. S. T. A. Kent.
143.— Ecce Quam Bonum! Henry R. Slack.
144.— Christian Scientists: What Shall We Do With Them? F. Julian Carroll.

Texas Medical News (Austin), December, 1899.

145.— Malarial Hematuria. M. L. Langford.
146.— When to Operate in Gin and Railroad Accidents. J. P. Oliver.
147.— Baby's First Year. J. C. Van Nuys.

Canada Lancet (Toronto), December, 1899.

148.— Some Historic and Other Data on Circumcision. N. E. Aronstein.
149.— Anemia and Its Treatment. Deering J. Roberts.
150.— Bubonic Plague in 1141 B. C. Frank Tidswell and James A. Dick.

Iowa Medical Journal (Des Moines), December, 1899.

151.—*Prevention of Wound Infection. C. E. Stoner.
152.— Placenta Previa. T. J. Shuell.

Medical Sentinel (Portland, Ore.), December, 1899.

153.— Points of Clinical Interest in Recent Operative Cases. Andrew C. Smith.
154.— Congenital Rectal Occlusion the Result of Maternal Impressions. C. E. Worthington.
155.— When Shall We Operate for Hernia? J. B. Eagleson.
156.— Medical Legislation. R. L. Nourse.
157.— Uric Acid. E. J. Labbe.

AMERICAN.

1. **Splenectomy.**—The spleen is not an indispensable organ in the economy, so its removal is not only sometimes possible, but desirable. It is indicated by enlargement from a paludal intoxication apparently dependent on the growth, in tubercular enlargement, as well as in primary malignant disease and in misplacement by axial rotation and in rupture. The contra-indications to its removal are extensive adhesions, leucocythemia and profound cachexia. In short, splenectomy should never be done except under the most favorable circumstances unless immediate death is threatened. Splenopexy has been suggested by some, but Bovée suggests that it must be remembered that the spleen is not a necessary organ, and that splenectomy is really the preferable operation. The symptoms are nearly always referable to the location of the organ, though in wandering spleen other organs may appear to be involved. In rupture, the symptoms are those of profound shock and internal hemorrhage. In malarial enlargement, the history of the case is to be had. Localized pain, mild or severe, is nearly always present, and marked cachexia is often noticed. In tubercular spleen, the differential symptoms are not always plain, and the same may be said to be true of malignant disease. The condition of the blood is of the greatest importance, and its changes from the normal form one of the most important complications. Anemia, extensive adhesions, diseases of the liver, pregnancy, etc., are important complications. The diagnosis is not ordinarily difficult, and the technic of the operation is well known, but Bovée here calls attention to one important point, viz., the ligation of the gastrosplenic ligament before dealing with the larger blood-vessels. This loosens the organ and materially facilitates the operation. The results of splenectomy are not unfavorable, and in the cases collected by the author, the deaths have been reduced to about 16 per cent. He reports two successful cases in detail.

2. **White Swelling of the Knee.**—Judson reports eleven cases of this condition, and calls attention to the most important point of treatment, which is to relieve the joint from pressure and traumatisms.

4. **Surgery of Common Bile-Duct.**—Halsted here reports several cases of surgery of the bile-duct, containing points of special interest. His paper is a long one and can be best appreciated by reference to the original.

5. **Dystocia in Multiparae.**—Concerning the difficulty of labor in multiparæ, occasionally met with, Boland sums up as follows: 1. Certain multiparæ, after one or more easy deliveries, lose the power of natural parturition. 2. This is due to failure of the expelling forces in the uterus and abdominal walls. 3. Artificial delivery is imperative in such cases as promptly as a diagnosis is established. 4. Infant mortality is high in artificial delivery by the natural passages. 5. The human female is very tolerant of aseptic mechanical genital injuries. 6. Is suprapubic delivery justifiable in these cases when a positive diagnosis is established?

7. **Buried Sutures in Lacerations Involving Sphincters.**—Kelly has recently described his method of operating on the ruptured perineum, and called attention particularly to dissecting out and suturing the sphincter ani muscle with buried sutures of catgut. Cabot has used buried sutures for many years, for this purpose, with extremely good results, and as his technic differs somewhat from that of Kelly, he describes it as follows: After the perineum, completely ruptured through the sphincter, has been thoroughly refreshed and the ends of the sphincter have been laid bare, a row of catgut stitches is taken, bringing together the rectal wall, particular care being taken to bring the stitches out exactly on the edge of the mucous membrane, not entering the caliber of the bowel. The outermost of these stitches include the divided ends of the sphincter muscle. When this row of stitches is tied, the rectum is entirely closed off from the wound and we have left a surface resembling that of a rupture of the perineum of the second grade, in which the rectum is not involved. A second row of buried catgut sutures is then taken, and with these stitches the ruptured pelvic fascia, the levator ani muscle and the ends of the transverse perineal and sphincter vaginæ muscles are drawn together. In this way a solid perineal body is constructed. Three rows of stitches are often used in accomplishing this. Finally, the mucous membrane of the vagina and the skin surface are closed in. The "purse-string" stitch of Emmet is not infrequently used in conjunction with this method of suturing, in order to still further draw together and consolidate the perineal body. The result of this method has been the construction of a perineum of greater solidity and depth than has been obtained in the writer's hands by any

other method. The buried stitches have in no instance given any trouble, and the method is one which must commend itself to any one giving it a thorough trial. In treatment of the rectal wall, Kelly approximates the rectal rent "by fine interrupted silk sutures passed on the rectal side, entering and emerging on the mucosa about 1 cm. from the margin of the cut." Stitches thus entering the rectum always have the disadvantage that they become infected from the rectal contents, and silk especially acts as a wick and becomes soaked with the fluids that are in contact with the exposed portion of the threads. By the writer's method, the stitches do not enter the rectum at all, but draw the mucous membrane snugly together, exactly as the mucous membrane of the bladder is approximated by the operation for vesicovaginal fistula. Results prove that infection from the rectal mucous membrane does not follow this method. He also describes one of the many cases on which he has operated in this way, in which union of the deep parts by first intention was not absolute. The suture used has been chromicized catgut of small size, which is easy to disinfect and quick to absorb. If extra strength is required, it is used double.

8. **X-Ray Examinations in Life Insurance.**—Williams calls attention to the usefulness of X-ray examinations for life insurance purposes, especially as regards the thoracic organs. He thinks there is no other method which gives us such trustworthy information and complete evidence of normal and abnormal conditions in the chest as the use of the fluorescent screen.

10. **Grave Secondary Anemia.**—DaCosta reports a case strongly simulating progressive pernicious anemia, but differing from it in the great reduction of hemoglobin, which was down to 17 per cent., and the increase in white blood-cells, both of which were against the diagnosis. He considered the case one of secondary anemia following achylia gastrica, serious enough in itself but not so serious as pernicious anemia. The treatment recommended is arsenic—Fowler's solution—3 drops every four hours, to be followed later by iron when it can be digested, and probably also dilute hydrochloric acid. The diet is milk, eggs, meat juice and underdone meat finely cut up with 2 grains of caroid for its digestion.

11. **Suture of Vas Deferens.**—Roberts reports a case of accidental severance of the vas deferens, in which he operated by slitting up one end of the severed tube, inserting the other end within it, suturing it with a few sutures to close the split and hold the parts together, as has been done in cases of divided ureter. He reports the case as probably new, and suggests the propriety of the method in similar accidents. In his instance the results, as far as preservation of the testicle was concerned, were good.

12.—See abstract in THE JOURNAL of Sept. 2, 1899, p. 621.

17.—Ibid., Aug. 19, 1899, p. 482.

18. **Etherization.**—Gallant describes his method of giving ether: an open cone which can be closed with the finger and which will permit the free access of air when desired. He also notes the especially troublesome forms of stertor occurring in these patients, which he thinks are due to positions of the head. The patient must not have the neck bent too far back or the jaw too near the sternum. He points out the various accidents and how to meet them, and calls attention to the following points in after-care: 1. Of hot water, he says that ever since a celiotomy patient under his care sat up in bed two hours after operation, emptied the contents of a hot-water bag into her stomach and recovered, it has been his practice to give hot water *ad libitum* as soon as the patient is conscious enough to ask for a drink. It allays gastric irritability, quenches the thirst, and if vomited really washes out the stomach. Its early use has a good effect on the kidneys and intestines. 2. As to nourishment, milk, with or without lime-water, is given as soon as the stomach is quiescent. Starvation does not strengthen a weak heart, nor aid recovery from loss of blood or shock. 3. As soon as the dorsal decubitus becomes at all irksome, he turns the patient on the side, when a restful sleep will follow. 4. Intestinal distension or paresis usually begins during the latter part of the first day, and soon becomes a source of great discomfort. If not relieved by high enemata, he at once resorts to friction along the colon; beginning at the right iliac fossa, he passes the hand up the ascending, across the transverse, and down the descending colon, slowly repeating this maneuver for fifteen or twenty minutes. This results in free discharge of gas from the rectum, gives immediate relief, assures us that there are no intestinal kinks, and that the bowels will move whenever it is deemed desirable.

19. **Treatment of Serous Effusions.**—Lewis discusses the mechanism of serous effusions in detail, and the futility of the ordinarily recommended methods are pointed out. He says that diuretics and counterirritants have had their day; hydragogue cathartics drain fluid from the vessels, but carry no assurance that the latter will recoup themselves from the reservoir of the pleura; diaphoretics possess all the disadvantages of hydragogue cathartics with none of their disadvantages; iodids and salicylates serve as forlorn hopes; antiphlogistics are antiquated and unscientific; so that the patient, as a rule, emerges from a longer or shorter course of internal medication, and comes to the aspirator, a sadder and weaker man. Here, too, no assurance can be given that there will be no return of the fluid, and if repeated aspirations are necessary, "the last state of the man is worse than the first." His own method, after having experimented with various astringents, which would, he thought, lead to exudative processes and absorption of the fluid, was the use of methylene blue mixed with the serum after aspiration, and reinjected, and he reports twenty cases in which this treatment was followed with apparent satisfaction to himself. He believes the methylene blue thus introduced is fatal to the tubercle as well as to other germs, and as its solution with the serum is perfect, it reaches every part.

23. **Dangers of Food Infection.**—Sherwood calls attention to the dangers of food infection, especially of meat and milk, and criticises the lack of care in the examination of food for domestic use. She reports that she has had the not unmixed pleasure of visiting some of the urban cow stables where milk is obtained, and found there most unsanitary conditions. She believes that a larger force of inspectors and a correspondingly more thorough work is necessary for the public safety.

26. **Tubercle Germs in Giant Cells.**—The occurrence of tubercle bacilli in giant cells in human tissues has been insisted on by Koch and Weigert and others, while Orthmann, Fütterer and Krückmann express doubt as to their frequency in this situation. Bourland reports that he has examined thousands of giant cells in human tissues, and in only four cases has he found them to enclose tubercle bacilli. He therefore offers this as supporting the doubts and findings of Fütterer and Krückmann. The relation, he thinks, between the bacilli and the giant cells must be a variable one, not fixed by anything apparent in the light of our present knowledge. In order to meet the questions that might be raised as to his technique, he gives it in detail.

27. **For Examination of Stomach.**—Fischer describes a form of gastric tube through which various instruments may be introduced into the stomach without coming in contact with the tissues, and thus avoiding the repeated intubation which is sometimes irksome to the patient.

30. **Surgical Treatment of Phthisis.**—The various methods of surgical intervention for tuberculous disease of the lungs are reviewed by Wood, who speaks favorably of the Murphy method of causing collapse of the lungs by nitrogen injection. He believes there is merit in this, and has been surprised not to see more reports of experiences with it.

31. **Early Treatment of Mastoiditis.**—The importance of mastoiditis and the necessity of its proper treatment are discussed by McCaw, who concludes his paper as follows: 1. In threatened mastoid involvement, and in the mild acute cases, the conservative plan of treatment should be first tried for a week or ten days, unless dangerous symptoms arise. 2. Operative interference should be instituted in acute cases where there is sagging of the posterosuperior canal wall; where the infection is of a virulent nature, and in all cases complicating chronic otorrheas.

32. **Value of Heroin.**—Fulton adds another recommendation of the advantages of heroin in respiratory disorders, and claims that while it is a veritable boon to the consumptive as a palliative to cough, it has a wide range of usefulness in

both acute and chronic forms of bronchitis. He employed it with great satisfaction in a series of cases last winter, giving it to children and adults in proportionate doses. By previous knowledge of the patient in most cases it was not difficult to see the effect which this agent had in bringing about improvement or recovery. Maximum doses produced gastric disturbances similar to those of morphin, but in lesser degree, and the desired effects can generally be obtained short of producing this.

33. **Diet in Typhoid.**—Speidel believes that the most important food in typhoid is water, which may be given by enema if not readily tolerated by the mouth, or intravenously in extreme cases. The error of overfeeding typhoid patients is often made. They rarely die of starvation, and much of the delirium and tympanitis of the disease may be ascribed to errors in this direction. The amount of food should be in proportion to the digestive capacity of the patient, as evidenced by the absence of undigested food in the stools and by the temperature, a patient with high temperature being in no condition to digest food. Buttermilk is the ideal food, obtained fresh every day. Next in order is sweet milk, which can be prepared in various ways and should be administered with some care. Filtration will answer in the majority of cases, but if necessary, Pasteurization and sterilization may be resorted to. When milk is absolutely refused, it will be found that unfermented grape-juice in wine-glass doses every three hours will support the patient during the entire febrile stage. When the temperature reaches normal in the morning, he allows the patient to chew steak, if trustworthy, cautioning him not to swallow the fiber, and also allows him chewing gum for the exercise of the muscles of mastication. The gradual change from liquid to solid diet is rendered easier if gelatin preparations are used. In ordinary cases a simple dietary will answer, but when complications occur and the patient rejects the ordinary routine, the physician is often severely puzzled, and various methods mentioned in this paper are offered as suggestions in such cases.

34. **Urine in Epilepsy.**—Klein has examined the urine in twenty-three patients in the Willard Asylum. The findings were chiefly transient albuminuria and excess of chlorids after the fits. Testing in the intervals did not find these characteristics so manifest in so many cases. Glucose was not found, and he reports a series of experiments made with strongly saccharine diet, in which he thinks he found a larger amount of glycosuria than would be found in normal individuals under similar conditions.

35. **Inhalation of Hot Air and Flame.**—The summary of the evidence obtained by Crile's experimental research on dogs is as follows: The evidence tends to show that the direct effects of the flame inhaled into the lungs, with the upper air-passages excluded, are not capable of causing sudden death. When the flame is inhaled through the mouth and upper air-passages as well, a very marked reflex inhibitory action on both the heart and the respiration is produced. In such a case after a control has been taken—a control showing a characteristic inhibitory acton on the heart and respiration—when both vagi are severed, the inhibitory action on the heart is wholly prevented, and while the respirations are not so greatly altered in their character, they do not wholly escape reflex influence. The same may be said of similar experiments in which physiologic doses of atropin had been given. The great irregularity of the blood-pressure curve shows that two factors are at work in its production, the one an accelerating, the other an inhibiting; and in the cases in which a blast of hot air or flame was introduced through the mouth, both of these factors were brought simultaneously into play, while in the experiments in which the flame was forced into the lungs through the trachea, but one factor—the accelerating—was active. In view of the fact that hot air and flame very markedly stimulate reflex inhibition of the heart and the respiration, it is quite probable that the sudden collapse from inhaling hot air or flame is due to the reflex inhibition of the cardiac and respiratory action, in the way just pointed out. Death may be caused in a few minutes by exhaustion of both the respiratory and circulatory mechanisms from overstimulation.

37. **Tetanus Treated by Carbolic Acid.**—Four cases of the treatment of tetanus by the Baccelli method, by carbolic acid injections, are here reported by Neitert and Amyx. In three instances though the injections were larger than those recommended by Ascoli, the patient died. The fourth made a good recovery.

40. See ¶ 57, below.

41. **Treatment of Wounds of Hands and Feet.**—Courtney criticises the average practice in treating lacerated and contused wounds of the extremities, and points out the faults: 1. The sacrifice of portions before there is a reasonable certainty that the blood-supply has been entirely destroyed and exposed bones will not be covered. 2. The fallacy that the hand or foot of a laboring man can be made surely surgically clean at the time of the first dressing. 3. Suturing the wound while uncertain as to asepsis. 4. Wet or moist dressings. 5. The free use of iodoform and the dismissal of the patient to his home, in office cases, with only a few instructions as to rest, position, etc., and as to his return for future care. He gives his own method in detail.

44.—This article, here appearing as an original paper, has already been printed elsewhere, as titled in THE JOURNAL of Dec. 2, 1899, p. 1411, ¶ 117; also December 23, p. 1601, ¶ 92.

45.—The same may be said of this paper, abstracted in THE JOURNAL of Nov. 18, 1899, p. 1284, ¶ 96; also mentioned as again printed as an original paper, December 2, p. 1411, ¶ 143, and December 16, p. 1539, ¶ 86.

46. **Antitoxin in Diphtheria.**—Campbell reports in detail the results from the use of antitoxin in eight cases of diphtheria occurring in one family. His results were favorable.

47. **Neuroses of the Menopause.**—The chief point maintained by Aldrich is that the menopause is a physiologic process and not one of decay. The doctrine that it is sexual and physical decrepitude is misleading and not founded on facts. He attributes a large part of the trouble to absorption of toxins from the intestinal tract, and insists on the importance of looking after the digestion, the intestinal asepsis and constipation.

48. **Surgery of Female Pelvic Organs.**—This article is a plea for radical rather than partial operations in pelvic surgery, and Wheeler sums up in the following propositions: 1. In operative cases the best prospect of a complete and speedy restoration of health is afforded by a radical operation. 2. In the case of a young woman with most of her child-bearing life before her, it may be justifiable to offer the less reliable aid of a partial operation, in order to give her every chance to preserve the function of reproduction. 3. In the case of a woman approaching the menopause—and *a fortiori* if she has passed it—there is no valid reason for refusing to give her the benefit of a radical operation.

51.—See abstract in THE JOURNAL of Nov. 11, 1899, p. 1225.

55.—Ibid.

57.—This paper, here printed as an original, has appeared elsewhere; see THE JOURNAL of Dec. 23, 1899, p. 1601, ¶ 113; also ¶ 40, above.

58. **Antidote for Snake and Spider Bites.**—Kent reports two cases of bites, one from a spider and the other from a copperhead, which were cured by the use of a plant growing in Virginia, one of the club mosses, Selaginella apus. The method of using this plant, which is locally known as "snake moss," is to take about .5 dram, or as much as can be packed in a large thimble, macerate it thoroughly with an ounce of sweet milk and have the patient drink the milk and swallow a portion of the moss, binding the balance to the wound. The author is, however, doubtful as to any special good from this last measure. He could add, he says, many cases to those cited, but he thinks them sufficient to establish the value of this remedy. (See also, ¶ 142, below.)

60.—This paper appeared in THE JOURNAL of Oct. 21, 1899.

69. **Separation of Lower Epiphysis of Femur.**—After reporting a case in a boy aged 7, and reviewing the literature, Cottam draws his conclusions as to this condition in the following: 1. Compound traumatic separation of the lower epiphysis of the femur, from its structural peculiarities, is a formidable lesion, rarely treated successfully and attended with

a high mortality. 2. If the popliteal vessels are injured and the patient rallies, amputation is inevitable. 3. If the vessels are intact, one of two courses may be followed, i. e., reduction, with or without wiring, or resection of the diaphysis, if difficulty is experienced in reduction or in maintaining apposition, followed by wiring. 4. Plaster-of-Paris immobilization is invariably indicated. 5. Traction extension in any shape or form is contraindicated. 6. Asepsis must be carried to the acme of rigidity.

73.—See abstract in THE JOURNAL of Dec. 30, 1899, p. 1653.

77.—Ibid., Dec. 9, 1899, ¶ 114, p. 1483.

84. **Prevention and Treatment of Puerperal Eclampsia.**—Davis insists on the regular action of the bowels and attention to the condition of the kidneys. He thinks that tea and coffee used habitually and to excess are very deleterious and should be cut off entirely, alcohol likewise. While emptying of the uterus is important, it is not alone sufficient to meet the indications. All reflex irritation originating in the uterus should be removed. As many organs as possible should be aroused to elimination by the most direct and efficient agents. The skin should be excited by a hot moist pack. Calomel in a 5-grain dose, and thorough irrigation of the large intestines, should be employed. He does not favor bleeding, and the weight of opinion is against the use of pilocarpin and large doses of morphin or chloral or potassium bromid. There is, however, evidence that in the absence of bleeding the hypodermic use of veratrum viride will have a good effect, and when bleeding is not practiced, hypodermoclysis and the use of veratrum viride would have the same effect as bleeding, though less rapid. In the period after labor, when the patient has begun to eliminate slightly, but is still restless and semi-delirious, morphin and codein have their uses, and strychnin may be called for if the heart's action is deficient. If the toxemia has not been too long continued, and the patient is young and healthy, the prognosis is not bad, but if it is of long standing and the patient debilitated, or if she is a primapara above the average age, the chances for recovery are bad. The physician should first direct attention to diagnosing and treating toxemia and then if eclampsia occurs, and he can not treat it vigorously in the best manner, he should call in assistance. Delay is dangerous.

85. **Treatment of Eclampsia.**—Edgar formulates the line of treatment for the pre-eclamptic state, as follows: 1. Reduce the amount of nitrogenous food to a minimum. 2. Limit the production and absorption of toxins in the intestines and tissues and assist in their elimination by improving the action of the bowels, the kidneys, the liver, the spleen and the lungs. 3. If necessary, remove the source of trouble by emptying the uterus. The diet he would advise is light and digestible, and he insists on the value of exercising, but when this is not available, oxygen by inhalation is of great utility. The curative treatment is: 1. To control the convulsions, and for these, chloroform is first in his opinion, next veratrum viride and third chloral. 2. Empty the uterus under anesthesia as rapidly as possible without injury, and, lastly, the essential is the elimination of poisons which presumably cause the convulsions, and he would use intestinal catharsis, diuretics, especially glonoin, and veratrum viride and diaphoresis by hot air baths or wet packs. He rejects pilocarpin entirely.

86. **Treatment of Puerperal Eclampsia.**—King treats the convulsions with hydragogue cathartics, the hot bath and wet pack, a mustard plaster used once only, followed by hot poultices of flaxseed or digitalis. When renal congestion has been thus relieved, he uses digitalis and lithium citrate to increase excretion. He places the patient in Sims' position, or in any other that will divert the pressure of the gravid uterus toward the diaphragm and away from the pelvis. To control the convulsions when they have occurred, he uses large doses of veratrum viride and morphin hypodermically, and in anticipation of each convulsion as it begins, a cautious inhalation of chloroform. If the convulsions can be kept in abeyance, and labor proceed without interference, so much the better. Quiet and a dark room are advisable. He thinks that patients sometimes die from suffocation caused by the falling back of the tongue, and the clinching of the tongue by the teeth is sometimes, therefore, a salutary action.

87. **Treatment of Puerperal Eclampsia.**—Reynolds would use pilocarpin in a single dose when diaphoresis can not be obtained without it, but he is afraid of the drug, as he has seen it produce a watery secretion from the lungs rather than the skin. Hot air baths and cathartics are used as by the others. He employs sedatives almost as a routine practice, giving bromids in large doses with small amounts of chloral when the urinary suppression is well marked, but using chloral to the physiologic limit, with or without the bromids when convulsions are attended with comparatively little disturbance of the renal functions.

88. **Treatment of Eclampsia.**—Norris follows the same general lines as those before. He has found, however, that the urinary changes may indicate marked alterations without serious toxemia, while the latter may exist with very slight traces in the urine. He prefers chloral to morphin to control the convulsions, and gives a dram of chloral by enema, repeated four or five times in twenty-four hours if necessary. In primigravidæ, full blooded, with strong pulse and cyanotic, he uses venesection until a positive effect has been produced on the pulse. In less sthenic cases he prefers veratrum viride. To aid elimination, the injection of normal salt solution under the mammary gland and into the rectum is of great value, and a hot wet pack will aid the action of the skin. Pilocarpin is contraindicated on account of its tendency to edema of the lungs. Epsom or Rochelle salts are the most efficient eliminators, in his experience.

89. **Prognosis and Treatment of Nephritis.**—Hare says that in acute nephritis the largest part of the treatment must be prophylactic, and if properly carried out grave renal complications can be avoided. Mild alkaline diuretics, free use of pure water and the use of purgatives will do much to prevent these. In addition to these, hydrotherapeutic treatment is also of value. In chronic nephritis we must do what we can to prevent the spread of the disease and relieve annoying or dangerous symptoms, and these can be treated best by a proper regimen and careful diet. He knows of no drugs that distinctly decrease the elimination of albumin in advanced nephritis, and he thinks it doubtful whether attempts in this direction are wise. His experience with the so-called medicinal diaphoretics is not altogether favorable. The condition of the heart should be looked after. Hypodermoclysis is more beneficial in cases of uremia from chronic contracted kidney than from those due to chronic parenchymatous nephritis, and it is least valuable when dropsy is marked. He thinks the contradictory views in regard to the use of morphin are more in appearance than in fact. When it is beneficial it is probable that sedation of the nervous system is called for. In other cases it may be dangerous; each case must be decided for itself.

91.—See abstract in THE JOURNAL of Nov. 11, 1899, p. 1228.

96. **Meniere's Disease.**—The case reported is one of vertiginous attacks in a man aged 26 years, apparently robust and plethoric but decidedly nervous. There was no loss of consciousness and no symptoms suggesting epilepsy. Vertigo was occasionally apoplectiform. Tinnitus was absent in the beginning, but later became a marked feature. The examination of the ear did not reveal adequate conditions to account for the symptoms. Hoople reviews this case at length, and attributes the vertigo to high tension of the intralabyrinthine fluids, producing upon the organ of Corti, effects with loss of function like that caused by increased tension in glaucoma, on the rods and cones of the retina. In this case he would consider it due to a reflex neurosis and he gives several reasons supporting this view of the case.

99. **Notes on Turbinals, Tonsils, Etc.**—Baevens comments on nasal and throat conditions met with, urging less prescribing of cocain and advocating conservatism in ear, nose and throat work.

103.—See mention of this paper in THE JOURNAL of Nov. 11, 1899, p. 1229.

104. **Hygiene of Asthmatics.**—The points especially made by Jack are the necessity of proper diet, which should consist of such foods as are most rapidly assimilated and most readily oxygenated, the most available meats being fresh, rare beefsteak or roast. This, however, is not alone sufficient, and he begins feeding with the progressive diet constructed by

Leube, which is as follows: 1. Bouillon, Leube-Rosenthal meat solution; milk; soft-boiled or raw eggs; dry toast or crackers; water or neutral indifferent effervescent (CO_2) water. 2. Boiled calf's brains; boiled sweet-bread—thymus of calf; boiled young chicken; boiled squab; cereal soups; tapioca cooked in milk; boiled calf's feet. 3. Sirloin pulp steak; grilled sirloin steak; scraped raw ham; mashed potatoes, baked with a little milk and butter; a little white bread; cup of hot water with milk and salt. 4. Roast beef; roast chicken; venison, partridge and veal; boiled lean fish; macaroni; bouillon or rice soup; spinach; a little wine. 5. Baked apple; all common foods; finally, salads, vegetables and stewed fruits. This he has clinically found satisfactory. He also advises the free use of acid fruits. The diet of the asthmatic should be varied and abundant—he should make eating his chief aim in life and should eat frequently, much and in variety. Next to dieting he ranks hydrotherapy, and the method he prefers is cold water sponging followed by friction. Sunlight is another essential, and the baths above mentioned should be taken in a well-lighted room, if possible under direct solar rays. He speaks also of the value of altitude in the treatment of asthma, and the necessity of regular habits. He would cut off tobacco absolutely, and would only use alcohol under medical direction during severe asthmatic seizures. Next to altitude, the most important question of location is the presence of malaria, which should be avoided. This explains the advantage of city over country life.

106. **Resuscitation in Newborn Infants.**—The advantages of rhythmic traction of the tongue, according to the method described by Laborde, are insisted on by Fronczak, who reports several cases in which it was used with success. It can be used while the child is in a warm bath, is not fatiguing and is available in every case.

111. **Scholastics and Mystics.**—Ball gives a historic sketch of Cornelius Agrippa, Jerome Cardan, the Rosicrucians and Robert Fludd.

112. **Habit-Disease and Tobacco.**—Gould gives statistics as to the consumption of tobacco and his ideas of its dangers and benefits. As to what is excess, when the odor of tobacco is readily detected in the breath of a smoker five minutes after smoking, when nothing whatever has been done to disguise or neutralize it, he would say that that individual is smoking too much. He also states that the consumption of coffee goes parallel with that of tobacco. The more one smokes, the more coffee one can and usually will drink. In conclusion he lays down a scheme of classification of habitopathics, tentatively offered.

113. **Tendon Suture, Cholecystotomy, Suppuration After Hernia.**—These subjects are considered by Crile, empyema of the gall-bladder leading to the cholecystotomy with recovery, and the hernial suppuration being from a deep suture, the hernia recurring.

114. **Obstipation.**—Martin describes his method of treatment by section of the rectal valves, and briefly mentions three or four out of a large number he has operated on in whom the operation did not succeed. A successful case in a physician is reported at greater length.

115. **Disinfection in Smallpox.**—Hess finds that a 20 per cent. solution of formaldehyde applied to articles infected by smallpox is satisfactory for disinfection, and patients discharged from the detention hospital were required to take a bath in a 2.5 per cent. solution, which did not irritate the skin or produce any unpleasant symptoms. He sums up by saying:

"All materials or fabrics which have in any way come in contact with variola, that can not be moistened with a 20 per cent. solution of formaldehyde without destroying their beauty or usefulness, should be destroyed. Patients, when convalescent from smallpox, should be bathed in a 2½ per cent. solution of formaldehyde, and furnished with new clothes or clothing which has been thoroughly disinfected by that agent."

118.—See THE JOURNAL of January 6, p. 36, ¶ 87.

121.—Ibid., Aug. 19, 1899, p. 472, ¶ 68; December 23, p. 1603, ¶ 74.

133. **Cancer.**—McGannon concludes his address with the following deductions: 1. We are as yet uncertain as to the actual cause of cancer. 2. Our knowledge warrants us in suspecting that it is of parasitic origin, and that it is contagious. 3. At first it is a local growth, curable by complete extirpation, and fatal if not so removed. 4. It is our duty in every case when cancer is possible to suspect it and to bring to bear on it every known aid to its early recognition. 5. When a diagnosis is made at a time favorable for cure by the complete removal of the growth, then we should not only advise, but urge, immediate operation. 6. If the diagnosis is made at a time when the lymphatics are involved and a return is likely, knowing the more or less speedy fatal termination of the case when left to nature, it is our duty to place the facts before the patient, and if operation is accepted under the conditions, to make the attempt to remove the disease by as complete an operation as possible. 7. If the tumor is deemed inoperable, a living death should not be created by abandoning the case, but life should be cheered and hope stimulated by the employment of some of the non-operative methods of treatment mentioned.

135. **Eye Injuries.**—The importance of first attention to injuries of the eye is illustrated by cases reported by Price. The first thing in all cases is to find out the cause, how the injury was inflicted. This is of prime importance, for if there is any danger to be apprehended involving the iris, we should always resort to atropia. If there is injury to the cornea we should use simple salves and washes to cleanse the eye. He gives special cautions against leaving a solution of cocain in the hands of the patient. It should never be employed except by the physician.

140.—See THE JOURNAL of Dec. 23, 1899, p. 1604, ¶ 109.

142.—See abstract above, ¶58.

151. **Prevention of Wound Infection.**—After a rather lengthy discussion of the general subject and its history, Stoner lays down the following rules, which he thinks should be observed in addition to those usually practiced in aseptic surgery: 1. Limitation of the duration of the operation to the very shortest time consistent with safety. 2. Limitation of the number present to those actually needed to assist in the operation. 3. The use of the face mask by those engaged in teaching. 4. The discontinuance of holding the flaps by the exposed hands, by tenacula or forceps. 5. The wearing of sterile rubber gloves by all who come in contact, directly or indirectly, with the wound. 6 Observance of care in making the primary skin incision, and the method of passing needles and sutures through the skin. 7. The use of iodoformized or sublimated sutures.

FOREIGN.

British Medical Journal, Dec. 23, 1899.

Clinical Lecture on Case of Scurvy-Rickets in Boy of Twelve Years. EDMUND OWEN.—After describing a case falling under the head of the scurvy-rickets of Cheadle, or hemorrhagic rickets, Owen discusses the condition and its etiology, the boy's age making the case an exceptional one, as it rarely occurs after 3 years. He remarks that it is not a disease of the poor, but rather of the well-to-do, and he attributes this largely to the prepared foods used for hand-reared infants. The disease is as yet unknown in the west of Ireland, and has only of late years made its appearance in some other parts of the world. It seems to go with civilization.

Harveian Lectures on Surgical Treatment of Tuberculous Diseases. W. WATSON CHEYNE.—This second lecture of Cheyne's takes up tubercular peritonitis and its surgical treatment. He describes the various forms: the miliary, acute and subacute with ascites, the fibrous form and the caseating, giving their symptoms and prognosis. The disease may be either primary—2 to 10 per cent.—or secondary from intra-abdominal or other tuberculosis. The common sources of infection are intestinal ulcers, and also the Fallopian tubes. Lung tuberculosis occurs in something like 25 or 30 per cent., while that of the pleura is not uncommon in these cases. It would appear from the statistics of cases operated on that peritoneal tuberculosis is most common in females, while the post-mortem statistics show the reverse. We must assume that a larger portion of females come to operation than males, often from mistaken diagnosis of ovarian or other diseases. The prognosis was formerly considered absolutely bad, but of late years better statistics have shown us that it is not altogether so unfavor-

able, even under medical treatment alone. The caseating form is the most fatal. Surgical treatment of tubercular peritonitis was discovered by accident, by the late Spencer Wells, but was first brought definitely forward as a therapeutic measure by Koenig. Cheyne reviews the statistics and shows that in a very large portion of cases permanent cures are affected. He gives a table of Aldibert's cases treated by laparotomy, both in children and adults, which certainly make a favorable showing. Roersch's statistics are also favorable, and even in the caseating cases in children a percentage of recoveries of over 50 is shown (Roersch). The most favorable are those belonging to the miliary type with localized ascites, those with diffuse ascites next; next are the fibrous adhesive forms. The prognosis is more grave with the caseating type, and yet a large proportion of cures is obtained. Even the involved lung seems to sometimes share in the improvement after the operation. The method of operation is described, and it should be followed by medical measures as soon as possible. He does not attempt to fully explain the *rationale* of the cure of tubercular peritonitis by laparotomy, but suggests that an antitoxin is formed in the blood, and that the serum poured out by the operation may have bactericidal properties.

Lancet, Dec. 23, 1899.

Observations Bearing on the Question of the Influence Which Is Exerted by the Agglutinins in the Infected Organism. A. E. WRIGHT and GEORGE LAMB.—The question as to the relation of specific agglutinating substances to immunity is here treated. The authors confine themselves to the consideration of the argument that the agglutinins must be inactive during life, since the microbe continues to cultivate itself long after their appearance in the blood. The question is whether these microbes are, as a matter of fact, cultivating themselves in the presence of agglutinins, and they, therefore, made a number of observations in cases of Malta and typhoid fever, with the serum taken from the heart blood and from the spleen and Peyer's patches, using various dilutions and observing the effect. A marked difference existed between the serum from the spleen, and that from the general circulation, and they conclude that the microbes of these diseases cultivate themselves in the infected organs in mediums relatively poor in agglutinins, the spleen offering such a location. Theorizing on these results, they hold that the bacilli enter into chemical combination with the agglutinins, and thus effect a corresponding reduction in the agglutinative power of the containing medium, and that when the mass effect of the agglutinins is reduced beyond a certain medium, the agglutinative effect is no longer exerted. When the bacteria have been introduced in sufficient quantity to bring this about, they will cultivate themselves perfectly unchecked within the limits to their action. Heat or fever is a direct antagonist to this process, as it indicates an increased afflux of arterial blood and lymph flow, and when this process has gone sufficiently long and the agglutinins and other antibacterial substances are produced in sufficient quantity, they will be present in the blood in sufficient concentration to permit of their entering and abolishing the non-agglutinative envelopes which surround the colonies of germs. This done, the production of the toxins will be arrested and the temperature will fall. If, however, there remains somewhere in the organism, in some stagnant capillary or elsewhere, a colony not thus reached, relapses are liable to occur. The authors also made three observations to test the question as to the non-agglutinative character of the serum in the typhoid spots, by taking the serum from these and from the finger tips and comparing the effects. They found that the serum from the typhoid spots reacted in low dilutions, but rapidly failed to react as the dilution was made greater, while this was not true with the serum taken from the general circulation.

Gangrene Complicated by Glycosuria. CUTHBERT S. WALLACE.—The question of the origin of gangrene with glycosuria is discussed by Wallace, who accounts for the condition by the existence of arterial disease. He reports a number of cases and ends his paper with the following conclusions: 1. There yet remains to be proved that true gangrene—excluding death from acute specific processes which may occur in any subjects at any age—occurs in diabetic patients unaccompanied by such arterial disease as would of itself produce the gangrene. 2. The glycosuria may or may not precede the gangrene but is not usually accompanied by other signs of diabetes. 3. Septic wounds may produce a glycosuria which vanishes when the septic process is removed. 4. Individuals suffering from septic processes are often on the borderland of glycosuria. 5. Gangrene may aggravate a pre-existing glycosuria. 6. The arterial disease is sometimes that which accompanies, or is produced by, chronic renal disease. 7. It has yet to be proved that neuritis can produce any gangrene comparable to that of the so-called diabetic gangrene. 8. The best chance of recovery is offered by removal of the limb near the trunk, and this measure should be undertaken before the patient is reduced by septic absorption. 9. The presence of glycosuria may be an indication, instead of a contraindication, for operation.

Glasgow Medical Journal, December, 1899.

Recurrent Insanity: An Analysis of Relapsed Cases. HUGH KERR.—This paper is an analysis of 450 cases admitted into the Buck's County Asylum during four years, and the author's conclusions are summarized in the following: 1. Recurrent cases form a large proportion of the curable ones admitted into asylums. 2. In these hereditary predisposition to insanity is present in a greater number than in primary cases. 3. Alcoholic or other excess is a frequent factor in the causation of relapses. 4. In cases of early life, menstrual irregularities in the female and masturbation in the male are frequently present. 5. The puerperal period and the periods of gestation and lactation account for a large proportion of female recurrent attacks. 6. The climacteric period in both sexes is a potent predisposing or exciting cause. 7. The majority of the attacks occur in middle life; the first, however, is most frequent in the adolescent period, and is later in males than females. 8. The prevailing forms of insanity are maniacal, melancholic forms being almost restricted to the middle period of life. 9. The tendency is toward recovery, minor relapses being frequent before complete convalescence. 10. The largest proportion of chronic cases is found in second attacks. 11. In many of the cases a certain periodicity is established, the tendency, however, being toward chronic insanity. 12. This class of patients furnished many who are dangerous to themselves and others, a danger which is increased by the impulsive character of their acts, and the frequent absence of marked premonitory symptoms, before the onset of the attack.

O Brazil Medico (Rio), Nov. 22, 1899.

Influence of Pregnancy on Heart Disease. J. CANDIDO.—"Pregnancy is less injurious for a woman with heart disease, in most cases, than severe muscular exertion." Certain precautions must be observed however, Candido continues. Short walks in the open air during the first months are beneficial, always stopping short of fatigue. All fatiguing muscular exertion should be avoided during pregnancy, and a mixed milk diet commenced by the second or third month, ingesting two quarts of milk a day. Small doses of digitalis may be taken at long intervals. Colds and emotions should be avoided. "Rest, milk and a little digitalis is the tripod on which should rest the prophylactic régime of cardiopaths who wish to become mothers."

Semana Medica (Buenos Ayres), Nov. 9, 1899.

Operative Treatment of Total Symblepharon. DEMARIA.—The modification of the usual methods consists in the application of a single large flap from the region of the epitrochlea. The flap was round and larger than the space to be covered, to allow for shrivelling, and the dermic side was applied to the stump of the eyeball—destroyed by quicklime in the observation described. Unfortunately the results are only a trifle better than those secured by Panas and others with a double flap: the culs-de-sac have gradually disappeared and the insertion of an artificial eye is still an impossibility.

Echo Medicale (Lille), Dec. 17, 1899.

Chronic Tuberculous Peritonitis Successfully Treated with the X-Ray. E. AUSSET AND BEDART.—These confrères, both professors at Lille, announced in 1898 the cure of a case of chronic ascitic peritonis with the Roentgen ray, and no recurrence since. Another typical case is now described in which absolutely no other treatment was used, not even superalimentation, the patient, a girl of 4 years, whose abdomen

measured about twenty-four inches in circumference, with several indurated masses, easily palpated and evidences of walled-off collections of fluid. In the course of the sèances with the X-ray, eight to fifteen minutes every other day, the ascitic fluid entirely vanished by the end of the second month; the child has increased nearly seven pounds in weight and the abdomen is now of nearly normal circumference. The tube was placed 25 to 15 cm. from the abdomen.

Revue de Medicine (Paris), Nov. 10, 1899.

Variations in Gastric Sensibility. J. C. ROUX.—The painful spot noticed so often in the epigastrium, with stomach and other troubles, was marked with nitrate of silver on six tuberculous subjects, and a skewer inserted through to the back at this point, after death. It passed through the solar plexus in each case, or to be more exact, through the nervous plexus which surrounds the celiac trunk. Roux noted, in a number of subjects, that the sensibility varies from day to day or hour to hour, and that the causes which increase it are either of peripheral—irritations in the stomach or abdominal viscera—or central origin—depressed condition of the nervous system. The pain can be relieved by general moral and physical rest, especially rest of the stomach, and by anesthesia of the mucous lining of the stomach and cutaneous revulsion—chloroformed water or two teaspoonfuls of a solution of 5 cg. cocain in 150 grams of water; the effect of a sinapism lasts fully an hour. These measures are equally effective whether the pain is of central or peripheral origin. The symptom which dominates all the rest in the painful manifestations of any gastropathy is evidently the degree of hyperesthesia of the gastric mucosa, hence an excess of acid or retention of food are only secondary factors in the pain accompanying gastric disturbances.

Non-Coronary Angina Pectoris. MOREL-LAVALLÉE.—A number of observations carefully analyzed establish that angina pectoris may occur secondarily and independent of any coronary lesion, with the varied and vasospastic aspect conventionally reserved for "false angina." In these observations the genesis of the affection was manifestly complex and required the treatment for true angina as much or more than arterial medication. All were hysterics, but the overexertion of the myocardium may lead to serious consequences, and renders the prognosis grave. This reserve on the part of the physician is absolute in case of definite perinervous lesions, either direct—sclerous mediastinitis—or indirect—irradiating neuralgias of intercostal origin, consecutive to pleurisy—and also in case of a pure hysterical angor. The writer concludes by protesting against the assumption that hysterical are necessarily harmless affections.

Semaine Medicale (Paris), Dec. 20, 1899.

Albuminuria from Standing. J. TEISSIER.—Postural or orthostatic albuminuria is a rare affection, and the prognosis is favorable with appropriate treatment. The albuminuria only occurs when the subject has been standing; ten minutes on the feet may bring it on and forty minutes in bed will abolish it completely. Teissier explains the etiology as threefold: a congestive element, a catarrhal element and a nervous influence. The congestive element is proven by the fact that the intermittent albuminuria exclusively limited to the periods of standing, becomes permanent during the menstrual period. The urine contains urinary mucus and nucleo-albumin, establishing the catarrhal element, and a nervous influence is marked in all the observations on record. This etiology is confirmed by the fine results attained with the combination of bromid, antipyrin and quinin. An exclusive milk diet is detrimental, as it dilates the stomach and tends to produce alimentary albuminuria. The recumbent position two hours after the midday meal is beneficial. Intellectual work should be restricted to the minimum; the subjects are mostly young persons in a stage of rapid development. Mountain air raises the arterial pressure, which is frequently subnormal, and is advantageous, with other tonic measures. The seashore is counterindicated except in very sheltered localities and when there is no evident nervous taint.

Mediastinal Pleurisy. G. DIEULAFOY.—The mediastinal syndrome—dyspnea, attacks of suffocation, dysphagia, pertussis-like coughing, vocal troubles and wheezing—deviations of the trachea or projections into its cavity, noted by direct examination of the organ, existence of pain and dulness in the vicinity of the third and fourth dorsal vertebræ, the dulness contrasting with the normal resonance of the "limitrophic regions," the abrupt debut, form a bundle of proofs sufficient for the affirmation of mediastinal pleurisy, which is confirmed by the appearance of a vomica. Bacteriology is also useful in the diagnosis; the nature of the affection can be determined by Bezancon's agglutinating test, as in most cases it is due to the pneumococcus. Medical therapeutics is impotent; the evacuation of the deep, purulent, encysted tumor is always insufficient and leads to septicemic accidents, usually fatal. The patients should be confided to the surgeon at once. This form of pleurisy is rare. Dieulafoy has encountered it twice, and only three other observations are on record. His experience with interlobar pleurisy (see THE JOURNAL, xxxiii, p. 1417), demonstrates the inestimable benefits to be realized when the practitioner and the surgeon work hand in hand to determine the exact site of the abscesses and evacuate them. He presents his well-known views on appendicitis, and especially the "masked forms," in the third volume of the report of the Hotel Dieu for 1898-99, from which the foregoing is condensed, and enters a new field in his study of hydatid cysts of the spleen, summarized below.

Hydatid Cysts of Spleen. G. DIEULAFOY.—Laparotomy is required for these cysts, which are always beyond the reach of the needle. They may be either ascending or descending. No other tumor of a splenic origin can project to such an extent upward, pushing up the diaphragm to the fifth intercostal space, but the diagnosis of a descending cyst is more difficult. The examination of the blood, the shape of the spleen, the pauses in the development, the more or less rapid growth of the tumor, the feeling of the spleen on palpation should not be neglected in the diagnosing. If the spleen has to be abated, the leucocyte balance, disturbed for the first few months, becomes re-established by the end of this time.

Centralblatt f. Chirurgie (Leipsic), Dec. 16 and 23, 1899.

Formation of Ganglion in Continuity of a Tendon. C. HOFMANN.—In extirpating a ganglion of the dorsum of the foot, it was found located inside the tendon of the peroneus tertius, the second case on record of a ganglion inside of a tendon. No indications of degeneration were noted, and Hofmann inclines to the opinion that degeneration is not an important factor in the evolution of a ganglion. He thinks that a vigorous vascular neo-growth may occur in certain conditions in very spongy connective tissue—not fat tissue—with proliferation of connective tissue, and that degeneration does not occur till later. According to this theory the part played by the vessels in neo-formative processes differs from that which has been hitherto ascribed to them. In this case the patient had fallen over a chair a year before, and had noticed a numbness in the foot and a progressively growing tumor not long after.

Changes in the Internal Organs with Pronounced Scoliosis and Kyphoscoliosis. M. BACHMANN.—In the study of 276 cases of curvature of the spine—197 necropsies—Bachmann found some of the internal organs dislocated—heart, diaphragm, etc.—sometimes deformed—lungs, liver, etc.—and some quite frequently organically altered. It is noticeable that 251 of the 276 cases—91.3 per cent.—presented pathologic alterations in the circulatory apparatus; all but four restricted to the heart and pericardium—41 with valvular affections and 13 with valvular defects. Hypertrophy and dilation of the heart, usually the right, were noted in 182 cases—65.9 per cent.—coinciding with an affection of the heart muscle in 76 cases. Affections of the lung tissue, bronchi and pleura were noted in 274 cases: emphysema, 46.7 per cent.; atelectasia and compression of the lungs, 46.5; bronchitis, 41.6; phthisis, 28.3; pneumonia, 20.6; pleuritic processes, 74.6; pneumonia was the cause of death in 32 out of 197 cases, or 16.2 per cent.; primary or secondary fatal heart failure in 59.4 per cent. Curvature of the spine has a marked effect on the psyche and nervous system. Compression of the intercostal nerve explains the frequent intercostal lumbar and abdominal neuralgias which are increased by exercise and incapacitate the subject for work. The monograph is published in full in the *Bibliotheca Medica*, Part D-I, 4, appearing soon after the author's sudden death on the German Deep Sea Expedition. The results of his re-

search impose great caution in surgical intervention in case of scoliosis.

Radical Operation for Inguinal Hernia in Infants. F. KAREWSKI.—Commenting on Fraenkel's operations on sixteen nurslings—Bassini for inguinal hernia—Karewski states that it is not necessary to perform such a complicated operation as the Bassini on infants and children under 3 years. He has been very successful in twenty cases—six incarcerated—treated simply by loosening the serosa of the hernial sac and ligating it as high up as possible in the internal inguinal ring, which ensures an undisturbed and permanent cure. Nearly all were out-patients. Only one child died, and it was moribund when operated on. From five to eight years have elapsed in seven cases.

Can a Gauze Compress Forgotten During a Laparotomy Work Through Into the Intestines Without Causing Serious Symptoms? J. P. ZUM BUSCH.—Rehn reported, at the last German Congress of Surgery, a peculiar case of intestinal occlusion caused by a gauze compress overlooked in the abdomen during a laparotomy. The passage of the compress into the intestines, with comparatively little disturbance seemed very strange to him, and the general impression was that the compress must have been swallowed. Busch relates a similar case: the patient returned after the laparotomy complaining of stomach troubles, abdominal pains but not very severe, vomiting for one day and constipation, but not appearing very sick, good appetite and no hysteria. A shallow movable protuberance was noted below the umbilicus, moving along, after castor-oil had been administered, until evacuated per anum and found to be one of the compresses used in the operating-room, of peculiar shape and size, and almost impossible for the patient to have procured clandestinely. The presence of an exudate noted in the pelvis and its absorption later also confirm the possibility of the spontaneous rupture of a forgotten compress into the intestines.

Two Gastroenterostomies with Plates Cut Out of a Turnip. R. v. BARACZ.—The plates are cut on the same principle as Senn's bone plates, and were recommended by the writer some years ago. In the two new cases reported the plates were applied with the most satisfactory results, the advantages being the rapidity with which the gastro-enterostomy can be done, the approximation of such a large expanse of serous membrane, no danger of infection of the peritoneal cavity, reduction of sutures to the minimum and impossibility of peritonitis from perforation. The half-digested remains of the turnip were evacuated the fifth day in one case. One patient survived the removal of the carcinoma eight months; the other only three.

Alteration in Intestines and Kidneys After Implantation of Ureters in Intestine. J. KALABIN.—Four dogs had one ureter implanted in the intestine; two died of peritonitis and one of uremia; the fourth remained healthy and cheerful until killed thirteen months later. The implanted ureter and intestine were found normal, but the kidney on this side showed a marked, regular, micro-diffuse proliferation of stroma between the uriniferous tubules of the medullary structure, and of the cortical to a slight extent. The epithelium of the Henle loops and of the convoluted tubules and the endothelium of the Malpighian capsules were much swollen, the two first vacuolized, and granulated masses of albumin were found in the lumen. The capsule of the kidney was abnormally thick and formed of solid connective tissue which had grown directly into the cortical substance at one place 3 mm. in diameter. Collapse of the organ was noted at this point as in case of an infarct. The tubules of this region had become merely large holes with no epithelium, some empty, others containing a granular or homogeneous mass. The tufts were in various stages of degeneracy, and patches of round-celled infiltration were also observed at this point.

Dermatologisches Centralblatt (Berlin), December, 1899.

The Growth of the Hair. J. POHL—The hair was cut close to the head in small patches on several persons and the growth carefully measured. The first point noted was that cutting the hair checks its growth for a month, after which it returns to normal. The average rate of growth in a month was 10 to 13.5 mm. in boys 11 to 17 years of age; 15 mm. in the writer, between his twenty-first to twenty-fourth year, and 11 mm. at 60. In five insane patients, the rate of growth was less: 7, 8, 9 and 12 mm. a month. The curious fact was established that each two to four hairs form a group more closely connected than the rest, and that one hair of this group grows more rapidly than the rest for a while and then stops, when its neighbor assumes a more rapid growth for a while and then stops, the next continuing the rate, and so on until the turn falls again to the first hair; also that hairs have a typical length of life, after which they fall out, and this occurs in a group in the same alternate manner as the growth progresses. These phenomena were noted in the hairs on the back of the fingers as well as on the head. The typical length of a hair is twenty to forty inches, and its life two to six years. The highest rate of growth occurs in the middle of this allotted span. Fever checks it.

Profeta's Law. R. BRUEGGEMANN.—This law is generally accepted as applying to the healthy children of syphilitic parents, that they are immune to syphilitic infection. But Profeta only claimed that the healthy children of syphilitic mothers were immune, and some recent observations have shown the fallacy of the assumption that a syphilitic father can confer immunity.

Deutsche Medicinische Wochenschrift (Leipsic), Dec. 7 and 14, 1899.

Calomel As an Antiseptic in Obstetrics and Gynecology. THEOPOLD.—The calomel is carried in a wide-mouthed bottle and, before attempting any palpation or operation, Theopold dips his fingers, after thorough disinfection, into the bottle, working the powder well under the nails and then rubbing the hands and arms with it. Each instrument and each tampon is coated with the calomel in the same way. His obstetric patients seldom require a second visit, and he has not lost a single one out of two hundred patients, since he began using the calomel, although the conditions in much of his country practice are far from favorable.

Clinical Significance of Elimination of Remains of Meat in Feces. A. SCHMIDT.—"Connective tissue that is not most thoroughly cooked is only digested in the stomach, while nuclear substance is only digested by the pancreatic juice, assisted to a slight extent by intestinal putrefactions. The appearance of remains of connective tissue in the feces, visible to the naked eye, indicates a disturbance in the gastric digestion, although it leaves undecided the question of the nature of this disturbance. It is a very sensitive test of the digestive function of the stomach after ingestion of a hundred grams of well-cooked chopped meat. If remains of muscle are perceptible under the same conditions, the intestinal digestion is deranged, but whether it is the secreting or absorbing function that is out of order can not be determined by this means."

Case of Diphtheria with Erythema and Joint Swellings. A. SCHUNTZE.—In the observation reported, no serum had been given, and yet the symptoms of cutaneous erythema and swelling of the joints appeared, which have usually been attributed to serum treatment in other observations.

Muenchener Medicinische Wochenschrift, Dec. 19, 1899.

Tests of Disinfection of Hands. PAUL AND SARWEY.—The first report of tests made with the sterile box described in THE JOURNAL, January 6, p. 39, shows that it is impossible to render the hands completely sterile with Ahlfeld's hot water-alcohol method of disinfection. Ehrig and Winternitz were the only ones of the twelve persons tested who had even one hand completely sterile after the most thorough disinfection by this method; four had from 20 to 80 germs develop from a final scraping with the curette.

Value of Urine-Gelatin Medium for Diagnosis of Typhus. E. UNGER and E. PORTNER.—The writers proclaim this method, as a distinct process in bacteriology. (See THE JOURNAL xxxiii, p. 1504.) Hitherto the detection of typhus bacilli in the feces has been extremely difficult, and required at least four to five days, but it can now be accomplished in two or three, and with more certainty than ever before. They found the bacilli by the second day of the disease, and until the eighth to tenth after subsidence of the fever, reappearing when a relapse was imminent. The bacilli exceptionally persisted as late as five weeks after subsidence of the fever, as in a case that left the hospital entirely cured, a warning that the excreta of convalescents may still be dangerous for others. No typhus colonies could be derived from blood taken from patches of roseola,

ut the gelatin-urine medium proved exceptionally favorable or the development of cultures from the urine, which grew ith an abundance of tendrils seldom to be obtained in cult- res from the feces, although frequently there were no indica- ions of any renal affection. The following three points the riters assert must be borne in mind: 1. If no colonies with endrils develop after several attempts, the case is evidently ot typhus. 2. Numerous colonies with long tendrils indicate yphus. 3. Colonies with short tendrils speak for typhus if he clinical signs of the affection are evident, but not otherwise. ertainty can only be attained by further bacteriologic tests r the usual chemical tests to determine the identity of the ultures, which robs the method of much of its advantage as means of early diagnosis.

Grece Medicale (Syra), November, 1899.

Traumatic Incontinence of Urine Cured by Suprapubic Cystotomy. A. P. PETRIDIS.—A boy of 12 had suffered from onstant incontinence of urine for seven years, since a lateral ystotomy to remove a stone from the bladder. The wound had ealed normally. After the failure of the usual measures to ure the enuresis the bladder was opened through a hypogastric ncision. The vesical mucosa was found slightly congested and he wall thicker than normal, and contracted. The organ was losed and in a few days had healed; the incontinence ceased. here has been no recurrence during the fourteen months since.

Spontaneous Recovery From Puerperal Septicopyemia with Multiple Cutaneous Abscesses. ARMACOLLAS.—A oman with evidences of intense puerperal infection, appear- ng three days after delivery, refused antiseptic local treatment s she and her family were extremely ignorant and superstiious, and the physician withdrew from the case after giving little quinin and bismuth. Summoned later, he found the atient with high fever and numerous cutaneous abscesses and angrenous decubitus, but no purulent localization on the in- ernal organs. The multiple abscesses evacuated their contents nd healed, and the patient recovered completely, the spontan- ous abscesses having evidently served to eliminate the infec- ious germs.

Gazzetta Degli Ospedale (Milan), Dec. 17, 1899.

Relations Between Tuberculosis and Nervous Diseases. . ROSSI.—A thousand patients were examined at De Renzi's linic: 489 affected with tuberculosis, generally pulmonary, nd 511 with various nervous diseases. Study of their ante- edents and present status reveals an unmistakable connection etween tuberculosis and nervous diseases. In 197 or 25.5 per ent., the tuberculosis coincides with some pronounced nervous ffection and they influence each other in other cases, succeed- ng or alternating in the evolution of the family, "countersign- ng its degeneration." Neuropathic antecedents were noted in 8.6 per cent. of the cases of tuberculosis. Tuberculous ante- edents were found in 22.6 per cent. of the cases of nervous dis- ase. Rossi believes that the key to the relations between tuber- ulosis and neuropathy is to be sought in vasomotor disturb- nces in the nutrition induced in the organs by the perversion f the nervous system, thus slowly predisposing the organism o tubercular infection. The great influence of the vagus on the utrition and functions of the lungs, and on infections, explains his connection. He further announces that the antagonism itherto accepted between cerebral hemorrhage and tuberculosis oes not exist in reality, as he found cerebral apoplexy in the amilies of 9 per cent. of the tuberculous subjects, and in 31.7 er cent. of the tuberculous subjects with neuropathic ante- edents.

Medicinal Intoxication with Belladonna. A. CALANDRA. —A woman of sedentary habits and evidences of coprostasis, ook a pill containing 2 cg. of dry extract of belladonna and 2.5 g. of podophyllin. Symptoms of intoxication appeared in fif- een minutes, general prostration, etc., and in the course of a ew hours violent diarrhea and syncope. Normal conditions were not restored for three or four days.

St. Petersburger Medicinische Woch., Dec. 9, 1899.

Vascular Lesions and Intestinal Neuroses. R. V. NGELHARDT.—The writer is in the habit of asking all his atients suspected of a nervous tendency, whether they have ad migraine, vertigo or palpitation of the heart without ap- reciable cause, or suffer from cold hands or feet or from facile sweat secretion, whether there is a tendency to chilblains and whether these phenomena are affected by menstruation. He comments on the astonishing frequency with which these questions are answered in the affirmative, and expresses his conviction that the phenomena are all directly dependent on vasomotor disturbances in the circulation, which hypothesis also explains the symptoms of a vasomotor nature so frequently noted in the course of intestinal neuroses. Both the vasomotor disturbances and the intestinal troubles are symptoms of a disturbed circulation. Morbus Basedowii and migraine seem to stand in the closest relation to the vascular system, and each may be accompanied by a watery morning diarrhea. These intestinal disturbances may also accompany general anemia and neurasthenia, or appear alone, and he attributes them to a vasomotor origin, among other reasons, on account of the alternate appearance of pure vasomotor disturbances and of intestinal phenomena in individuals or in members of the same family. He describes a family of seven brothers and sisters in whom, coincident with a general nervous predisposition, possibly dependent on it, certain objective symptoms manifest themselves in various parts of the organism: headache, constipation, alternating with enteritis membranacea in one, ameliorated by suggestion and pregnancy; the second suffered from cold, cyanotic hands and feet, chilblains; the third from migraine; the fourth from hyperidrosis, cold extremities, headaches; another from migraine, mucous morning diarrhea, palpitations; the father from hyperidrosis from youth, and now muscular atrophy of a portion of the left arm, probably anterior poliomyelitis on an arteriosclerotic foundation; the mother has migraine and angina pectoris, with indications of coronary sclerosis. The one feature common to all these various clinical pictures is a disturbance in the circulation. "Further study of neurasthenia and hysteria will confirm more and more the existence of this connection with disturbances in the circulation." Vasomotor disturbances are evident in the cardialgia of anemic-neurasthenic subjects: the pulse becomes small and irregular, the extremities cold, the abdominal aorta tense; it pulsates violently and is painful on pressure. Cardialgia in elderly persons with generalized arteriosclerosis presents quite a different picture. It usually appears at night, the subjects are uncomfortable reclining and prefer to stand, the lips and extremities become blue and cold. Diuretin is frequently effective in these cases. Anemic-nervous patients often complain of meteorism and a tendency to morning diarrhea, especially pronounced just before the menses and much alleviated by menstruation and pregnancy. Meteorism is a frequent symptom of arteriosclerosis. It may cause the greater discomfort on account of the limitation to the excursions of the diaphragm and the consequent pressure or dislocation of the heart, but objectively the symptoms suggest that the organic alterations in the abdominal vessels are the direct cause. This supposition is confirmed by the efficacy of potassium iodid and caffein in such cases. Adenot states that the mesenterial are the arteries most frequently affected with arteriosclerosis. This condition may disturb the circulation in the abdominal region, and entail meteorism and mucous diarrhea, such as occur in case of torsion of an intestinal loop and its local venous stagnation, which induces local meteorism and a profuse secretion from the intestine. The same occurs on a larger scale in the conditions known as plethora abdominalis. "This parallelism between the symptoms of an intestinal neurosis and similar disturbances in notorious arteriosclerosis has long impressed me. In both cases the alterations in the vessels, whether dependent on merely functional or organic disturbances in the circulation, are the direct cause for the manifestation of the phenomena, and these spontaneously group themselves into local intestinal or more remote objective indications of a disturbed circulation." He reviews the various observations of vasomotor neuroses and coincident arteriosclerosis published, and establishes as the principle for therapeutics the restoration and maintenance of a normal rhythmus in the circulation.

Voyenno-Medizinski Journal (St. Petersburg), Nos. 7, 8 and 9.

Operative Treatment of Paralysis from Pressure in Tuberculosis Spondylitis. SOBOLEWSKI.—"When mechanical treatment fails, laminectomy is of undoubted benefit and is harmless." The patient should be kept warm during and after

the intervention in complete narcosis. Abrupt manipulation of the cord must be avoided as liable to induce shock. In case of tuberculosis of the spine in the form of sclerotic pachymeningitis, and tuberculosis of the processes, the laminectomy is in fact a radical operation. But even in other cases when improvement is all that can be expected, it is of great efficacy. It is counterindicated in extensive diffuse affections of the bones and tuberculosis of the internal organs. Sobolewski bases his article on one personal and 147 observations in literature. The operation has been repeated two and even three times in a few cases. Relapses are rare. (See THE JOURNAL, January 6, p. 16.)

Hernia of the Lung. P. ORLOW.—A tumor the size of a walnut appeared in the suprasternal region of the neck on one side of the sternocleido mastoidei, in the course of a very difficult labor, simultaneously with an inguinal hernia. The tumor has not grown during the thirty years since, but increases to the size of a hen's egg during coughing, and is drawn in during inspiration and protrudes with expiration. It collapses at the slightest palpation. Potain reported a similar observation last year; intervention is evidently unnecessary in such cases.

Societies.

Clinton County Medical Society.—The recent meeting of this Society, held in Clinton, Iowa, resulted in the election of the following officers: president, Geo. Hofstetter; vice-president, D. S. Fairchild, Jr.; secretary, E. L. Martindale; librarian, J. C. Langan.

Hancock County Medical Society.—The following are the newly elected officers of this Society, which met at Findlay, Ohio, Dec. 28, 1899: president, T. S. Wilson; vice-president, N. L. McLachlan; secretary, Don C. Hughes; assistant secretary, M. S. Williamson.

Austin District Medical Society.—The fourth quarterly session of this Society was held at Austin, Texas, late in December, and the following officers elected: president, S. E. Hudson; first vice-president, A. Nowlin; secretary and treasurer, W. A. Harper.

Philadelphia Obstetrical Society.—At the last stated meeting of this society the following named were elected for the ensuing term: president, John C. DaCosta; vice-presidents, John M. Fisher and George M. Boyd; secretary, Frank W. Talley; treasurer, John G. Clark.

Wapello County Medical Society.—At the regular January meeting, the following officers were elected for the ensuing year: president, George C. Pope; vice-president, F. W. Mills; secretary and treasurer, C. R. Russell. The Society will hold its annual banquet January 18, at Ottumwa, Iowa.

Seneca County Medical Society.—This Society was organized at Tiffin, Ohio, last month, by electing the following officers: president, C. T. Benner; vice-president, Robert Swigart; secretary, Georgia Finley; treasurer, Wm. H. Focht. Meetings will be the third Thursday in each month.

Schuylkill County Medical Society.—The annual session of this Society was held at Pottsville, Pa., January 2, and the following officers elected: president, W. C. J. Smith, St. Clair; vice-president, A. L. Gillars, Pottsville; treasurer, D. Taggart, Frackville; secretary, G. W. Farquhar, Pottsville, censor, A. P. Carr, St. Clair.

College of Physicians of Philadelphia.—The following officers were elected on January 3: president, W. W. Keen; vice-president, Horatio C. Wood; censors, Alfred Stillé, William F. Norris, Richard A. Cleeman and Arthur V. Meigs; secretary, Thomas R. Neilson; treasurer, Richard H. Harte; honorary librarian, Frederick P. Henry; councillors, DeForest Willard, Robert G. LeConte.

N. Y. Neurological Society.—At the annual meeting of this Society, held in New York City, the 2d inst., the following officers were elected for 1900: president, Frederick Peterson; first vice-president, Joseph Collins; second vice-president, L. Stieglitz; recording secretary, Pearce Bailey; corresponding secretary, Lewis A. Conner; treasurer, Graeme M. Hammond.

Washington (D. C.) Obstetrical and Gynecological Society.—At the recent meetings of the Society the following papers were presented: Dr. Stone, "Surgical and Mechanical Treatment of Dysmenorrhea;" Dr. Vanrensselaer, "Surgery of Typhoid Fever;" Dr. Sprigg, "External Palpation vs. Vaginal Examination in Normal Labor."

Washington (D. C.) Microscopical Society.—At its annual meeting, this Society elected the following officers: president, Paul Partsch; vice-president, Rupert Nortan; recording secretary, Professor Mooers; treasurer, Robert Reyburn; curator, Prof. Wm. H. Seaman. At the close of the election, Dr. Seaman read a paper on "Medicine Droppers and the Measurement of Drops."

Washington (D. C.) Medical Society.—At the recent meetings of this Society, the following papers were presented: Dr. Foster, "Common Features in Neurasthenia and Insanity: Their Common Bases and Treatment;" Dr. Arwine, "Fungous Foot of India;" Dr. Burnett, "A Series of Cases of Suppurative Inflammation of the Temporal Bone;" Dr. Belt, "Eye and Ear Work in the London Hospitals;" Dr. Johnson, "A Case of Addison's Disease Treated and Improved by Suprarenal Extract;" Dr. Jung, "A Contribution to the Diagnosis of Diverticula in the Lower Part of the Esophagus."

Washington (D. C.) Academy of Sciences.—At the annual meeting of the Academy, held the 20th ult., Dr. S. C. Busey delivered his annual address, taking for his subject "American Medical Ethics." This paper will appear in THE JOURNAL. He urged on the profession the importance of strict adherence to the ethics of the AMERICAN MEDICAL ASSOCIATION, and deprecated the tendency of the profession to recognize and endorse by certificate or otherwise proprietary medicines and remedies. He also disparaged the holding by physicians, of patents for medical contrivances and instruments.

N. Y. County Medical Association.—At the next meeting of this Association, which will be held the evening of January 15, Dr. Thomas H. Manley will report the following clinical cases: "Senile Gangrene of Foot;" "Gangrenous Perforature of Sigmoid Flexure;" Mammoth Omental Hernia." The principal paper of the evening will be by Dr. L. F. Garrigues, entitled, "A New Method for Retroperitoneal Drainage of Pyosalpinx, with a Report of Five Cases." There will be a symposium on "Strangulated Hernia." Dr. Parker Syms will open the subject, with "Some Practical Remarks Concerning Its Diagnosis and Proper Treatment;" Dr. H. M. Silver will speak on "Diagnosis of Strangulated Hernia;" Dr. John F. Erdman on "Treatment of Strangulated Hernia;" Dr. Irving Haynes on "Radical Cure in Operations for Strangulated Hernia;" Dr. W. B. DeGarmo on "The Mechanical Treatment; Prophylactic and Post-Operative," and Dr. W. B. Coley on "Strangulated Hernia in Children."

Western Texas Medical Association.—At the meeting held the 28th ult., at San Antonio, Texas, this Association passed the following concerning the antivivisection bill now before Congress. The bill is printed in full on another page, this week.

Inasmuch as a bill has been introduced into the United States Senate for the third time, by Senator Gallinger of New Hampshire, for the further prevention of cruelty to animals in the District of Columbia, and known as Senate bill No. 34, the object of which, according to its advocates, is twofold: 1, to prohibit vivisection, and 2, to aid the passage of similar bills in all the state legislatures.

Resolved, That it is our duty as a body of scientific men to do all in our power to defeat this insidious and inhuman effort to restrain scientific research, to stop the progress of preventive medicine, and to perpetuate ignorance and disease and suffering among animals and men.

Resolved, That this Association exert its utmost influence individually and collectively with the Senators and Representatives in Congress from this state and with the members of the Senate committee in charge of the bill to defeat the same, and that a copy of these resolutions be forwarded to each one of these gentlemen respectively.

Resolved, That a petition be circulated among the citizens of San Antonio in order to arouse as vigorous a protest in this infamous and misguided scheme as possible.

Chicago Academy of Medicine.

Nov. 10, 1899.

(*Continued from p. 45.*)

SALIVARY FISTULA.

DR. G. FRANK LYDSTON—The first case I wish to report is one of salivary fistula, cited for the purpose of outlining a rather novel procedure for the operative cure of the fistula. The patient was a man, 25 years of age, who had been under treatment for syphilis, and was referred to me for what was believed to be a gumma in the region of the parotid gland. On examination the tumor proved to be a salivary cyst. I proceeded to extirpate it, and on the second day after operation I discovered, much to my disgust, that the cyst communicated, in all probability, with Steno's duct. I had substituted a salivary fistula for the tumor. Some three months later the patient, having stopped treatment for two or three weeks after the operation, returned to me. Cauterization and repeated suturing had been done by a surgeon who had endeavored to heal the fistula. I suggested a novel operation, which consisted of an attempt to re-establish the continuity between the bottom of the fistula and the normal opening of Steno's duct. After freshening the edges of the fistula, I passed a large, pointed, straight probe, armed with strong silk obliquely through the cheek and made it emerge from the normal opening of Steno's duct inside of the cheek. I fastened a small soft catheter to the ligature and drew it through the mouth. On the end of the catheter I fastened a single strand of silver wire which was drawn through the distal extremity of the catheter in such a manner as not to occlude its opening, thus leaving its lumen free. I countersunk the catheter to the depth of half an inch in the tissues of the cheek, and fastened the wire to a small lead plate, after stitching the fistula with catgut sutures. Beneath the plate was applied a dressing of idoform gauze. The free end of the catheter was made to emerge from the mouth. From that time on saliva flowed freely from the mouth. At the end of ten days the wire was cut and the catheter removed. The fistula was found to be absolutely healed. No further trouble from the fistula was experienced. Whether the probe had traversed Steno's duct, I can not say, but more likely I made a new fistula through the cheek, emerging in the mouth, and simply causing the fistula to open as nearly as possible at the normal opening of Steno's duct.

I do not know that this particular operation has been performed before; I have never seen it mentioned in literature. I do not claim that it is applicable to all forms of salivary fistula, but it proved a novel and successful procedure in this case. It is certainly applicable to the simple varieties of parotid fistula. How applicable it is to other forms of salivary fistula, remains to be seen. The last I heard from the case was about a year ago, two years after the operation. The patient was then in as good condition as at the time of my last examination—apparently perfectly cured.

TOTAL RESECTION OF SPERMATIC CORDS VS. THE OPERATIONS OF RESECTION OF THE VAS DEFERENS AND CASTRATION FOR PROSTATIC HYPERTROPHY.

DR. G. FRANK LYDSTON presented this subject. He said in part: I find that one of the great obstacles to castration is that even in the limited number of cases in which the operation is applicable, i. e., where the sexual function is not a paramount consideration and of no physiologic importance, the old men have a strong prejudice against the operation. Most of them believe that they are too virile to allow their testicles to be removed, a matter which they look upon with considerable pride. Furthermore, a patient who may consider his virility a thing of the past, does not like the idea of returning home minus these ornaments. He does not like to have remarks made to the effect that he has lost his testicles. As to resection of the vas deferens, the correlation of the nerve-supply of the vas deferens taken alone, and the prostate, is not quite so important as is claimed by those who advocate this operation as a substitute for castration. Certainly, the operation does not give as good results as castration. This has been my own experience and that of others who have practiced it. Total resection of the spermatic cords is quite as radical, so far as the result on the prostate is concerned, as castration. I do not believe the removal of the testis itself cuts much of a figure, as regards the effect on the prostate. Those cases in which removal of the vas deferens has accomplished the desired results bear me out in this assertion. The removal of the testicle affords added traumatism, making the operation a much more serious one. It is far easier to do total resection of the spermatic cords under local anesthesia than it is to perform castration. I am inclined to believe that some of the psychic symptoms that develop after castration in old men are due to the impression made on the mind of the patient by the removal of the testicles *per se*, rather than to the psychophysical effect of their absence. Furthermore, in some cases in which there is delirium and mania following castration, there is in addition to the psychic element a certain degree of uremic disturbance. The necessity of a more prolonged operation and more pronounced shock incidental to castration would perhaps explain the difference between these results and those obtained in mere resection of the vas deferens alone. The same would hold true as regards the results obtained from castration and total resection of the cords. In connection with this operation, like the operation of castration and resection of the vas deferens, the immediate results are not always supported very strongly by the remote results. A great many cases have been reported too soon after operations: they have not been followed carefully enough. For the time being, these patients have improved, but later on have relapsed into the same condition as before operation. The observations I have made on this point militate against the enthusiasm that has been manifested in certain quarters with reference to operations upon the spermatic cords and castration in the treatment of prostatic hypertrophy. This assertion is particularly pertinent in the case in point, because the individual was one in whom, *a priori*, we would not expect to obtain any marked results. The man was 65 years of age, with general atheroma, marked arcus senilis, and his radials were like pipe-stems, or, worse than that, as large as lead pencils. He was considerably emaciated. He was averse to having a radical operation performed. I suspected there might be a cancerous element in his case, although I was not able to detect anything of that nature. He had a markedly vesiculated bladder, with those peculiar columns found in cases of general atheroma. It was one of those typical cases of general atheroma involving the bladder and prostate, which Guyon describes, showing the condition which he believes to be the foundation of prostatic hypertrophy in all cases. The prostate proper was rather succulent. There were evidences of recent hyperplasia and considerable tenderness. I believed there was a possible chance of relieving the prostatic obstruction by operation.

Operation was done under cocain, less than 1 gr. being administered. Both cords were resected, one after the other, by an incision over the external ring, the cord being drawn out in the usual way. In these operations I make the resection high, over the inguinal ring, rather than down in the scrotal region, believing that the results are better. There were no evidences of disturbance from cocain except a little tingling of the fingers during the operation. By resecting first on one side, and then on the other, several days later the operator can, if he wishes, do the operation without any particular degree of shock. Then, too, if there be symptoms of intolerance of cocain, the second operation can be postponed until some future time. I rarely use stronger than 1 per cent. cocain, with 1 per cent. carbolic acid and 10 per cent. antipyrin solution. By resorting to local anesthesia, we avoid the manifest dangers of general anesthesia, and particularly nephritis, a condition that is very likely to result in old men from the influence of the anesthetic on the kidneys. I am satisfied that patients frequently die two or three weeks after operations, as a result of the effects of the anesthetic on the kidneys. I called attention to this point several years since. A practical point with reference to the permanency of the results is this: My patient had been compelled to rely on the catheter for some four or five months. He had not passed a drop of urine naturally for a year prior to that time, only being able to pass a few drops at a time. The second night after operation he passed six ounces of urine at one micturition. On the third day he passed, at one time,

seven or eight ounces; on the fifth day he was passing over fifty ounces per diem in a natural way. I congratulated myself that I had effected a very brilliant cure. I found, however, at the end of three weeks, when he was ready to go home, he was passing urine every one or two hours in apparently normal quantities, this being due to an overdistended condition of the bladder. My assistant had not watched that particular point carefully for probably twenty-four or forty-eight hours, and it would naturally have deceived anyone who had not had this experience before. The prostate was reduced considerably in size, and on the right side, which had been especially prominent, it had shrunken to practically its normal dimensions. I should say that there was 50 per cent. reduction on the other side. I do not believe I cured this patient by the operation, but I feel that it exerted an important influence on his prostate. How much rest had to do with it, I am unable to say, but he had not obtained such results from the long rest in bed that his general condition had necessitated from time to time.

I submit this modification of the usual operation as being better from a cosmetic standpoint, better from the standpoint of its psychic impression on the patient, and its relative simplicity than the operation of castration, and the ordinary operation of resection of the vas deferens alone.

DR. JAMES G. KIERNAN—With reference to one point in connection with the last case reported by Dr. Lydston, as regards operation for prostatic hypertrophy, it seems strange that he should have ignored a nutritional function of the testicle which corresponds closely to that of the ovary. At the 1897 International Medical Congress, Metchnikoff reported a number of experiments which showed that many antitoxins were the product of the ovary and the testicle, and these should be considered as to that function apart from the question of reproduction. It is quite well established that the ovary has functions connected with general nutrition apart from reproduction. I do not think I state the case too strongly when I say that the trend of gynecology is to preserve the ovary for this particular function apart from its reproductive. Granting the value of the removal of the testicles on account of their influence on prostatic disorders, and admitting the untoward secondary effects which result from this, if the same results be obtained by the procedure which Dr. Lydston has advocated, then it is peculiarly valuable.

There is another point apart from the local influence of the operation which deserves consideration, and that is the influence on the general system, which J. William White, of Philadelphia, has well called the constitutional influence of the operation per se. If the constitutional influence of the operation per se, which is not a purely psychic one, can be produced by the operation which Dr. Lydston has advocated it would seem desirable that the operation should be undertaken in preference to castration, which certainly does produce psychic disturbances in old men, just as oöphorectomy after the menopause does in women.

DR. WILLIAM L. BAUM—Inasmuch as most cases of prostatic enlargement present themselves for treatment at a time when the condition is far advanced, it is still a question whether the procedures advocated by Dr. Lydston, or prostatectomy, or testectomy will yield sufficiently good results to justify their use. The aggravated symptoms are mostly due, not so much to the enlargement of the prostate itself as to a secondary congestive condition. The operation for the relief of enlarged prostate has yet to be found.

DR. EMIL RIES—I feel very much as Dr. Baum does in regard to the treatment of diseases of the prostate, which are generally comprised under the name of prostatic hypertrophy. At present operative measures for the relief of this condition are highly unsatisfactory. We have to differentiate between treatment which is directed to the prostate itself and the treatment of some obscure, unproven, never satisfactorily explained nervous or other relation between other organs and the prostate. The latter refers to operations on the testicles and vas deferens. These operations have been founded on an assumed analogy between the relations of testicle and prostate and those of the ovary and a fibroid of the uterus. If this analogy is the only basis on which we have to build our hope in the treatment of prostatic hypertrophy, the sooner we get rid of that kind of treatment, the better. The experience of gynecologists, which has extended over more than one decade, has proven that the removal of the ovaries in the treatment of fibroids is a failure. Not only does the expected atrophy of the fibroid, after the removal of the ovaries, fail to take place in a large number of cases, but it has been observed in a comparatively large number of instances that after the natural menopause or the artificial operative extinction of the function of the ovaries, the fibroid has grown more than ever before.

As far as the relation between the ovary and the fibroid is concerned, it is more than probable that the effect of the extirpation of the ovary on the fibroid is not that of a relation of functions but simply the abolition of the blood-current from the ovarian arteries to the fibroid which in the removal of the ovaries is brought about by tying the blood-vessels which feed the upper half of the fibroid uterus. This is substantiated by the parallel method of tying the uterine arteries alone, whereby the lower half of the blood-supply is shut off from the fibroid, an operation which sometimes results in the diminution in size of the fibroid.

But to return to the prostate. There is assumed a functional relation between testicle and prostate, which is not explained or well established.

Let us consider what has been observed after operations for the removal of the testicles or of the vas deferens. The initial results reported after the removal of the testicles or resection of the vas deferens were highly promising. Later on, however, we have had reports of a condition of things not by any means as promising as the first reports. What is the reason? The first reports have all been lacking in one esssential point, namely, the patients have not been observed long enough after the operations. If a patient improves after an operation, it is no guarantee that he will be so much better a year after it. Dr. Lydston reports a case in which he says the patient was apparently very much improved, but in reality, not cured, as observation some time after the operation showed. The frankness of Dr. Lydston is refreshing, and the profession would be much better off if it had the unfavorable results of other cases rather than those insufficient reports characterized as beautiful results, and which are so unsatisfactory to scientific work. No doubt in a great many instances unfavorable results have not been reported at all. I am not sure whether the junctional or nervous relation between the testicle, vas deferens and prostatic hypertrophy exists. There are, however, possibilities of direct mechanical relations between them which I have not seen considered in text-books, and which seem to me to be worthy of consideration. I have examined a number of prostates microscopically, with especial reference to the corelation between the vas deferens and prostatic hypertrophy. It is very possible that in a number of cases a fibroid or adenomatous growth in the prostate, which constitutes what we call prostatic hypertrophy has a constricting or compressing influence on the vas deferens. As long as there is any function in the testicle there is secretion from the testicle, and if this secretion, in consequence of an obstructing tumor, accumulates in the prostatic part of the vas deferens, it must produce an additional enlargement of the prostate. If we cut off the supply from the testicle by resecting the vas deferens, much of the prostatic obstruction will be relieved. This is simply a mechanical principle, and one which may be of great importance, as many of the prostates, of which I can show you microscopic specimens, are filled with adenomatous growths, and it is highly probable that they produce a constricting influence on the vas deferens. I have also seen fibromatous growths springing from the fibrous and muscular sheath of the prostatic portion of the vas deferens which produce stenosis of the vas. If we cut off the supply from the testicle, the stenosis will exert little or no influence, and the prostate will collapse to some extent. However this theory will have to be further established.

If permitted, I wish to say a few words in regard to the treatment of the prostate itself, and refer to prostatectomy and prostatotomy. The latter, in cases of so-called prostatic hypertrophy, may be of great benefit, especially if the so-called hypertrophy be in the nature of an adenomatous growth, with the formation of cysts in the prostate. If we cut into the prostate, either by making a perineal section, or by doing a Bottini,

we may empty the cysts, and cause the cyst walls to collapse. In prostatectomy we have an operation which reminds me very much, as far as its results are concerned, of myomectomy for fibroid tumors of the uterus. The resuts of prostatectomy are just as bad now as they formerly were in the early operations of myomectomy because the tumors were extirpated at a stage when the cases were extremely unfavorable. The patient with prostatic hypertrophy consults us after he has lived a catheter life for a shorter or longer time, after his bladder has become infected, after the urethral sphincters are more or less impaired, after hydro- or pyo-ureter or nephrosis perhaps has formed, and then we have a septic bladder to deal with, as well perhaps as an unfavorable condition of the ureters and kidneys. Under such circumstances we need not be surprised if operative measures of treatment are followed by failure. We have to operate through a suprapubic incision in order to remove the median lobe, and we enucleate what tumors we can from the prostate. But we are operating in a septic field, with the ureteral sphincter greatly impaired or suppressed, so that the septic field of operation is in direct communication with the most essential organ, the kidney, and naturally such an operation is attended with no small degree of danger. The same thing held good in the early days of myomectomy. Patients came to us exsanguinated, pale, anemic, carried to the edge of the grave, so to speak, by the anemia and by the sepsis which was caused by the sloughing of tumors. If these patients were operated on, they died, so that myomectomy was considered a highly dangerous operative procedure. It is not so now, because we operate on them much earlier. Now we not only protect the patient from the dangers of a severe operation, but we often save the uterus, and there is no good reason, it seems to me, why the same good results should not be accomplished in prostatic work.

One great hope in the future lies largely in the work that has been done on the ureters, and by this means we may be able to secure much more favorable results in operating on patients with prostatic hypertrophy. It may be possible in the future to completely switch off the urine from the bladder, and get it through the ureters into some other organ which is provided with a sphincter, allowing the patient to live in comfort without infection taking place. The operation of implanting the ureters into the rectum, as it has been tried repeatedly, is fraught with the danger of infecting the kidneys; an operation which we could not at this time recommend to a patient with prostatic hypertrophy. The suprapubic cystostomy, even with the addition of Witzel's technique, is rarely satisfactory to the patient.

DR. REUBEN PETERSON—Dr. Ries has spoken of transplantation of the ureters into the rectum as a possibility in the treatment of enlarged prostate. For some months I have been performing experiments on dogs, having no particular object in view except to see whether the kidneys would be infected if the ureters were implanted into the rectum. I quite agree with what Dr. Ries has said relative to the present status of this operation. It is unjustifiable. It is impossible to insert a small tube, like the ureter, into a large tube, like the rectum, without obtaining a certain amount of stricture of the ureter, and if this is the result, then infection will necessarily follow. That has been the result in the dogs that I have been able to save by operative means. If infection does not take place it is a chance, and not due to any good surgery on the part of the operator. If an operation could be devised whereby a lateral anastomosis between the ureter and the rectum could be made, precluding any possibility of stricture of the ureter with subsequent dilation and hydronephrosis, infection of the kidney might not necessarily follow. My experiments have shown that where the greatest amount of stricture exists, there we have the largest amount of infection of the kidney. My experimental work leads me to the conclusion that the lateral anastomosis I have mentioned is a surgical possibility, and at some future time I shall report the condition of the kidneys whose ureters have been united to the rectum by this method.

As far as the sphincter control of the urine in the rectum goes, the operations have been a perfect success. There is no irritation of the rectum, the dog emptying his at certain intervals of anywhere from three to six hours. However, the possibilities of infection of the ureters and kidneys following transplantation of the former into the rectum are so great that the operation for removal of the prostate is at the present time, with our present knowledge, far preferable.

I do not agree with what Dr. Baum has said regarding patients not being cured by the removal of the prostate. I recall one case in which a prostate was removed by Dr. Van Hook, and a perfect cure resulted. For three years after the operation the man suffered much pain, although the bladder symptoms were improved. Then the pain suddenly ceased and he has remained perfectly well ever since although the operation was done five years ago. The median lobe was removed by the combined method from above and below. I have always attributed the pain which persisted for such a long period after the operation to an unhealed ulcer of the base of the bladder.

I was particularly impressed with what Dr. Ries said in regard to the possibility of obtaining good results from the early removal of the prostate. Some time ago I had the pleasure of witnessing Dr. Ries operate for the removal of the prostate. There was but little hemorrhage, and I was struck with the comparative ease with which the prostate was removed. If the operation can be perfected, a great many cases can be cured in that way.

Regarding just one other point, brought out by Dr. Kiernan. I do not believe that there are constitutional changes produced by the removal of the ovaries after the menopause, although the changes brought on by the removal of the functionating organs are varied, and many times may be severe. I do not think any constitutional symptoms will result from the removal of the testicles at the age Dr. Lydston has advocated this operation.

DR. G. F. LYDSTON, closing the discussion—It was not my intention to go into the entire field of the pathology and surgery of the prostate in reporting my case. I simply narrated the case to illustrate a method which I am satisfied, from experience with this and other cases, will prove a very valuable substitute for two operations—castration and resection of the vas deferens, both of which at best have narrow limitations. The older members of the Academy know how I stand on that particular point. I recall that in reviewing "Twentieth Century Practice of Medicine," to which I had the honor of contributing the chapter on "Diseases of the Prostate," the late Dr. John B. Hamilton made the remark that I had taken a very conservative attitude. I have changed my opinion considerably with reference to those operations. I find that many patients, who do not like to be castrated, hail with more or less joy the operation of resection of the vas deferens. The operations of castration and of resection of the vas deferens are undoubtedly of value in certain cases; but it was not my intention to enter into their indications, excepting as I mentioned them incidentally.

Dr. Kiernan raised a point which I was very glad to have him bring up. I have been watching, with more or less curiosity, recent experiments in the conservative surgery of the ovary, particularly those of ovarian grafting, and the possibility of their having a bearing on the question he referred to. Dr. Peterson has practically answered the remarks of Dr. Kiernan for me. A great deal depends on the age of the subject.

Dr. Baum took a rather pessimistic view of operations in general for the relief of prostatic hypertrophy, and his views were answered inferentially by the remarks Dr. Ries made with reference to the time that these operations should be performed. We should advocate early prostatectomy in these cases, other things being equal. I have elsewhere made the assertion that the trouble with prostatic surgery is that it is not given the same opportunity that has been granted to uterine surgery. It is rather difficult to draw analogies between the surgery of the prostate and that of the uterus. I agree with Dr. Ries in saying that both operations on the testes and cord, and radical operations on the prostate, have effected cures, though perhaps not so many as were claimed at first. I have been disappointed in some of my own cases, but I have been highly gratified by the results in others, particularly where early prostatectomy has been performed. In a patient on whom I operated five or six years ago, a man, a little over 50 years of age, and otherwise in excellent condition, I removed the two lateral lobes and a

large median one, or rather, I shelled out adenomatous growths from these lobes, and obtained a perfect cure. That man is a living exponent of what can be done by early prostatectomy. He was operated on in the pre-surgical stage of his condition, i. e., before he had been infected. If it were generally understood that radical operations on the prostate, if performed comparatively early, are more or less promising, and general practitioners would look out for symptoms of prostatic disease, we might be able to get our cases at a much earlier period. As a matter of fact patients have had more or less trouble with the prostate for years before the symptoms became sufficiently prominent to induce them to consult a surgeon.

So far as the analogy between the prostate and its pathology and surgery with the uterus is concerned, it cuts very little figure nowadays. We mention these things in giving a historic survey of the subject, but very few advanced surgeons take them into serious consideration.

The one I have advanced is a substitute for the other two operations on the vas deferens and testes. It is evident that, so far as the result is concerned, the condition of the prostate determines the question. Patients with a distinct fibroid change in the prostate are not likely to be benefited very much by those operations. When the case has advanced and glandular tumors or a fibroid condition exist, then I should not expect a favorable result from operative interference.

I was very glad Dr. Ries referred to early operation, or early treatment. In many cases local treatment of the prostate by means of massage will relieve the congestion and irritation about the prostatic urethra, and in a measure prevent the development of typical prostatic hypertrophy, which is a term we use for the sake of convenience.

With reference to suprapubic section, in many cases in which we substitute a suprapubic fistula for castration, it is far preferable, so far as the mental condition of old men is concerned. I have obtained excellent results from that method. I recall the case of a man who was made comfortable the rest of his days by that method, whereas before he had suffered severely with pain during urination so much so that I confidently expected to find a stone on exploration. He acquired almost sphincteric control of his suprapubic fistula. His method of urinating was to take a glass funnel, put a little absorbent cotton under the lower edge of it, and pass his urine through the funnel into a vessel. He did this for several years, and finally died of a condition which was not referable to his genito-urinary apparatus. With reference to the point of operating suprapubically for the purpose of establishing a permanent fistula, by making a small incision into the bladder, a mere puncture, so to speak, followed by forceps, dilating it, passing the finger in and exploring, no further operation on the bladder is necessary to make the fistula permanent. By operating in this way the muscular wall of the bladder will often develop a sphincteric function.

With reference to the direct results of castration, the contributions of White and others have shown that the operation was not based on analogic reasoning altogether, but on experimental results and observations in dogs. Castration has a marked influence over the prostate. It does not necessarily follow that we can cure all forms of prostatic hypertrophy by the operation I have advocated; I do not claim that, but the operation is certainly applicable in a certain number of cases.

With reference to grafting the ureters into the rectum, it is a serious operation and old men are better off using their catheters. How important the operation of Maydl, of grafting the ureters into the sigmoid flexure, may be in its relation to prostatic hypertrophy in the future, I do not know. But I believe I am correct in stating that the trend of surgical opinion is in the direction of that method rather than the transplantation of the ureters into the bladder, which is almost inevitably followed by infection of the kidney and its necessarily serious results.

(To be continued.)

Mercurial Ointment in Erysipelas.

A number of additional observations have recently been related by Dematteis, in the *Gazz. degli Osp.*, confirming the extreme efficacy of mercurial ointment, even in the gangrenous form of erysipelas.

Cleveland Medical Society.

Dec. 8, 1899.

DIGITALIS AND ITS AIDS IN CHRONIC CARDIAC HEART DISEASE.

DR. J. B. MCGEE read a paper on this subject. The essential indication in treatment of chronic heart diseas is to maintain the integrity of the cardiac muscle. Myocardial weakness implies a lack of ability to overcome valvular defects. To restore deficient compensation, the indications are to lessen the labor of the heart, to increase its power, and to improve its nutrition. The dual action of digitalis makes it of special value when the heart muscle is weak and the vascular tension low. Under its use there is an absolute increase in the volume of the cardiac muscle, so that digitalis may have a really curative action. He prefers long-continued medium doses, diminishing them as dropsy subsides or the pulse reaches normal. Because of the varying composition and medicinal value of digitalis, a preparation of the plant itself, preferably standardized, is the best. When there is high tension, it may be combined with a vasodilator, such as nitroglycerin. Because strophanthus has little action on the vessels, it is of especial value in the presence of high tension. Diuretin acts best in children, and caffein is more effective than its soluble salts. Strychnin is an almost ideal circulatory stimulant, especially in cardiac asthenia, and it is therefore of great value in the treatment of the aged. The diuretic action of calomel should always be remembered, as it is particularly effective in cardiac dropsy with hepatic congestion.

DR. P. M. FOSHAY drew attention to the fact that medical society programs, as a rule, showed that no subject is so steadily neglected as therapeutics, despite the fact that the treatment of disease is the chief aim of the art of medicine. He has had gratifying results from the diuretic effect of calomel used along with digitalis, but reported one death of a patient with chronic heart disease, from the exhaustion incident to a serous diarrhea that was probably caused by the calomel and digitalis.

DR. H. W. ROGERS thought that the manner of use of digitalis was largely a question of diagnosis. Certain conditions of the heart seem to be made worse by its use, especially some cases of aortic insufficiency. He noted one case of death within half an hour after the administration of half a dram of the tincture of digitalis. The case was one of dilated and hypertrophied heart, and death was undoubtedly due to the fact that the patient had for a long time been taking small doses of digitalis. He suggested that physicians pay too little attention to the functions of the liver and intestines in chronic heart disease. Very often, placing the patient on a regulated diet, and unloading the venous system through the intestinal tract, greatly relieves an overburdened heart. He also said that there are certain cases of pneumonia in which better results can be obtained from the use of digitalis than from the use of strychnin.

DR. C. F. HOOVER had never seen, in a single case, any evidence of vasoconstriction following the use of digitalis, and thought that the increase in volume and duration of the pulse was due to the prolongation of the systole of the left ventricle. The indications for the use of this drug necessitate a very nice study of the character of the pulse. The normal radial pulse being an expression of the ventricular systole and contraction of the elastic aorta, there occurs in consequence, in atheroma of the aorta, a pulse that is short and rapid and quite similar to that of aortic insufficiency. Here digitalis will do little good, while nitroglycerin will greatly relieve the heart. The first stage in the breaking down of the myocardium against peripheral resistance is marked by the slowing of the heart-rate, while later in the process the pulse becomes very rapid and arrhythmic. He reported a case of a man in a condition of extreme general cyanosis, with cold extremities and very weak pulse, due to increase of peripheral resistance, and which could be detected from the long duration of the pulse. Under the administration of nitroglycerin, the cyanosis promptly and entirely disappeared. The increased volume of the liver in chronic heart disease is not always due to passive hyperemia. The experiments by Gad showed that distension of the hepatic vessels will obstruct the flow of blood through the portal vein. In the case of cyanosis before

mentioned, the patient's liver was diminished at least two fingers' breadth in volume within two or three days, under the administration of nitroglycerin. No doubt it is these cases in which the saline cathartics do the most good.

DR. J. G. SPENZER asked the essayist if he had stated that caffein was more efficient than its soluble salts. He noted that calomel had been used as a diuretic by physicians in Ohio, in the early part of the century. He thought it was an excellent thing to use the entire drug of digitalis rather than any of the alkaloids.

DR. J. H. LOWMAN noted that Dr. Delamater of Cleveland, in the early part of the century, was accustomed to use a pill composed of a quarter of a grain of squills, calomel, opium and digitalis, in chronic heart disease. He thought there was usually no real objection to the long-continued use of digitalis in the case of senile hearts with arteriosclerosis, especially as it increased the nutrition of the heart muscle.

DR. R. D. FRY said he had experienced favorable results from the use of digitalis in the chronic bronchitis of the aged, and had found it superior to any other remedy.

DR. J. B. MCGEE, in closing, stated that it had been his experience that caffein gives better results than its soluble salts. He had used squills very little. He thought there was little risk in using strychnin in long-continued large doses, provided the effect was carefully watched. He had not used digitalin hypodermically, as it is insoluble.

DR. L. B. TUCKERMAN noted that from the earliest settlement of northern Ohio the physicians of that district were accustomed to use calomel as a diuretic.

FEEDING IN TYPHOID FEVER.

DR. G. W. MOOREHOUSE read a paper on this subject. During eight months, 57 cases of typhoid fever were treated at Lakeside Hospital, and 35 of these on return of the appetite, were fed, without regard to the temperature. The feeding was usually kept up during relapse, unless the appetite diminished with the increase of temperature, which did not commonly occur. In the fatal cases there was no return of the appetite, and they were fed only milk. Five died, a mortality of 8.8 per cent., and 11, or 19 per cent., had relapses. Well-cooked rice, soft-boiled or poached eggs on soft toast, macaroni, *blanc mange*, thickened soups, crackers with milk, scraped beef and minced chicken comprised the dietary of these patients, and these articles give about the same range, but not the came same variety, as the diet given by Dr. Shattuck (JOURNAL, xxix, p. 51) to his typhoid patients. With this diet the majority of the patients were satisfied until their temperatures had been normal for some time, and later they were fed still more liberally, but not until they would ordinarily have received full diet.

The general condition of typhoid patients improved greatly under food; no hemorrhage nor perforation occurred after its administration, but the percentage of relapses to the whole number of cases was rather high. There is very little material available for a statistic determination of the relative mortality under liberal and strict diet, but what there is seems rather in favor of the liberal diet, and this suggests a possible prognostic value of a return of the appetite.

DR. J. H. LOWMAN said that in observing these cases that occurred in his service at Lakeside Hospital, recovery seemed more rapid and the patients seemed in better condition after the trial of the liberal feeding, but after Dr. Moorehouse had tabulated the results, the rather large proportion of relapses surprised him. He is sure that typhoid patients are not sufficiently fed, and that the emaciation in this disease is often due to this fact. He noted that the normal body daily required food containing 1500 to 2000 heat units. This would require five to six pints of milk on a strictly milk diet. This amount is too large to give, while the addition of a little farinaceous food will add enormously to the number of heat units, and a little rice or cracker may be added to the milk with very great advantage. He thought that these articles added to the diet tended to prevent some of the late complications of the disease that often result from the low state of the general nutrition. The value of soups is very low, while that of meat juice is the same as that of milk, consequently meat juice is usually given in much too small quantities. There is no necessity of using meat, and there might be some danger.

DR. R. D. FRY had never seen a case of relapse in typhoid when a strict milk diet had been employed during the course of the fever, and for several days after its subsidence. In cases in which a strict milk diet is not well borne, some liquid peptonoids may be substituted. As the cases reported appeared to show about 40 per cent. of relapses, the result could hardly be considered as favorable to the practice of early feeding. He had seen numerous cases of typhoid made very much worse by the administration of remedies to check the diarrhea. He thought that if the treatment of typhoid by simply careful nursing and strict milk diet, with perhaps the addition of peptonoids, was carried out, the results were much better than when any medicine was used.

DR. W. H. HUMISTON criticized the use of crackers with milk in typhoid, for the reason that crackers are very indigestible, being composed chiefly of flour and lard. He thought that the recovery of these patients after the eating of crackers spoke wonders for what a typhoid patient can endure. The using of rice he thought commendable.

DR. O. B. CAMPBELL said that in regard to the feeding of typhoid patients, as well as in regard to the administration of medicine, he had come to the conclusion that there was no routine method to be followed. There are so many constitutions and so many varying features of the disease that it is impossible to lay down any rule of diet or remedies. Some may secure good results from one method of treatment in a certain series of cases, while others will certainly fail in employing the same method. The conclusion of the whole matter is that the physician must carefully study each case and treat it in accordance with the observed conditions.

DR. E. W. MOOREHOUSE, in closing, said that he did not care to adopt the method of liberal feeding. He had simply reported its use in a series of cases. The cases were not fed until they had some appetite, and so long as that continued the feeding was not interrupted. If there was any rise of temperature and the appetite failed, the amount of food was reduced. Most of these patients were returned soldiers from the recent war and were in a bad condition. He did not think that intestinal perforation can be attributed to anything that the physician can prevent, but he thought that the amount of tympanites was one of the most important things for the physician to watch, and if there is any distension, even though the temperature and pulse are satisfactory, something should be done for it because of the possible danger of perforation. The proportion of relapses as compared with the whole series of 57 cases is 19 per cent. He thought that Dr. Fry's experience was very unusual, as Osler, who is extremely careful to limit the diet to milk, reports relapses, and Pepper, whose rules in this respect were the most rigid, and who gave milk diet for ten days after the normal temperature was reached, reported relapses.

FIBROMYOMA OF LABIUM.

DR. B. O. COATES reported a case of fibromyoma occurring in the labium majus. The patient was aged 21, married, and had one child. There had always been some enlargement of the left labium, but after marriage it had developed rapidly and caused pain during coitus, as well as obstruction during parturition. The growth lay in the median line, and greatly resembled a scrotum with one testicle higher than the other. This resemblance was so great that one physician had termed the case "hermaphroditic." The tumor mass measured 17x8x6 cm., and was movable, irreducible and painless. Three separate tumors could be made out, two of which were of the consistency and size of testicles, while the third was larger and harder. Around these were a large number of smaller ones. The skin was not adherent to the tumor. After removal, sections showed clearly that they were fibromyomas.

DR. COATES, in reply, said that the skin was not adherent to any extent, that the tumors were all fairly movable beneath the skin, so much so that the house surgeon ventured the diagnosis of varicocele.

DR. HUNTER ROBB asked if Dr. Coates had found the skin adherent to the fibromyomatous tumor, and said that this was an exceedingly interesting specimen. He had never met with such a case, and knew of few references to similar ones.

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION.

SATURDAY, JANUARY 13, 1900.

SERUM TREATMENT OF TUBERCULOSIS.

It would be hazardous to venture a prediction as to the outlook for the serumtherapy of tuberculosis. With our present knowledge, antitoxins—at least in effective amount and activity—are believed to be produced only in the so-called self-limited diseases, and tuberculosis is scarcely included among these. It should, however, not be overlooked that recovery from tuberculosis—often spontaneous—is by no means rare, and the fact that a large number of those exposed to infection are not attacked by the disease would seem to indicate that the body does possess certain protective influences even against this much-dreaded disease. For these reasons the hope seems not unjustified that time will yet bring a remedy. This hope has not been realized in either tuberculin or tuberculin R, nor yet by any other of the antitubercle sera on the market. Investigation toward this end is actively going on, and the errors of the past may prove the stepping-stones of the future. One of the most persistent students in this field of activity is Maragliano, of Genoa, who, in a recent communication[1], on the basis of clinical and experimental experience answers in the affirmative the question whether tuberculosis is susceptible of treatment with antitoxic serum. He contends that, by the methods described by him three years ago, it is possible to obtain a serum containing protective substances that possess the property of neutralizing in healthy experimental animals—guinea-pigs and rabbits—the toxic effect of lethal doses of tuberculous toxin. The test-poison may consist indifferently in the bodies of dead bacilli freed of fat, in aqueous or glycerin extracts or in active substances obtained from these. The antitoxic serum exhibits its protective activity if injected as long as six hours before the toxin, or together with the toxic substances. The toxic substances employed invariably destroy healthy control animals within two or three days. The same antitoxins prevent all thermic reaction when injected into tuberculous human beings at the same time with positively pyrogenic doses of tuberculin, whereas subsequent injections of the same amount of tuberculin alone are followed by febrile reaction. These antitoxins excite the development of new protective substances when injected into healthy and diseased human beings. On repeated simultaneous injection with non-toxic doses of tuberculous toxin, the antitoxins prevent, in healthy experimental animals, the occurrence of the progressive wasting that takes place in animals treated with the same amount of toxin alone. In the blood and in the serum of tuberculous individuals toxins have been found that exert the same biologic effect on guinea-pigs as the tuberculous toxins. It has further been determined that this toxemia can be diminished and dissipated by systematic injections of antitoxic serum, so that the injection of blood serum or the urinary extract will not be followed in guinea-pigs by the deleterious effects mentioned. At the same time the presence of antitoxins that formerly were not present in the blood of the patients can be demonstrated. The tuberculous antitoxin is harmless to human beings and animals, either healthy or tuberculous. Care must be taken, however, not to confound the results of the trauma inflicted by the injection with the special effects of the antitoxin, as some tuberculous subjects exhibit thermic reaction after injection of even physiologic salt solution, or of the physiologic serum of various animals. As much as 40 c.c. of antitoxic serum have been injected into tuberculous patients at one time without reaction.

Although the antitoxin is capable of neutralizing the activity of the tuberculous toxins in the animal body, it has not yet been shown that it exercises any direct inhibiting effect on the growth or multiplication of the tubercle bacilli. In the test-tube the antitoxin exhibits an attenuating or destructive influence on the tubercle bacilli. Bacilli kept for twenty days at a temperature of 37 C.—98.6 F.—in antitoxic serum are innocuous for rabbits and guinea-pigs, and do not develop when inoculated on the usual culture-media. It can not be concluded that a similar result takes place in the animal organism. It may, however, be supposed that the serum effects some change in the soil within the body in such a way as to inhibit or destroy the activity of the bacilli. If virulent tubercle bacilli and antitoxic serum are injected into the peritoneal cavity of guinea-pigs, and if peritoneal fluid be removed after the lapse of thirty-four hours, it will be found that, although bacilli are still present, their injection into other guinea-pigs will not induce tuberculosis, and no development follows inoculation of the usual nutrient media. The injection of antitoxic serum into the peritoneum, together with .2 gram of virulent living bacilli, prevents acute infection in guinea-pigs, whereas the control-animal receiving the same amount of bacilli dies in the course of two or three days. The guinea-pigs treated with the antitoxin die after the lapse of a month, greatly wasted, but they may survive if the intraperitoneal injection of antitoxin be continued. As many as 50 per cent. of the guinea-pigs thus treated will be saved.

It may reasonably be concluded that the antitoxins, inasmuch as they neutralize the toxins, likewise favorably influence the soil in the animal body, and experience justifies the opinion that the properties and the alterations in the animal organism govern largely the distribution and the vital activity of the bacteria, particularly also the tubercle bacilli. Support for this view is found in the fact that with improvement in the general condition the bacilli disappear from the sputum, whether recovery be spontaneous, through hygienic and dietetic

[1] Berliner Klin. Woch., Dec. 4, 1899, p. 1073.

measures, or be caused by antitoxin treatment. This signifies that the tubercle bacillus can be effectually opposed, without the necessity for remedies capable of attacking it directly in the tissues. On the other hand, it can be assumed that the symptoms of tuberculosis are largely due to the tuberculous toxins, and not to the bacilli as such. It is possible to develop characteristic pathologic-anatomic alterations in animals with the toxins alone.

The conclusion would seem justified that the same significance and the same therapeutic indications must be conceded to the antitoxins of tuberculosis as belong to the other antitoxins in the treatment of infectious diseases, because those relations are based as determined experimentally on the scientific demonstration of the action and the application of the antitoxins; and it is believed by Maragliano, that the results obtained in the treatment of tuberculosis in human beings confirm those of experimental observation.

RELATION OF RENAL DISEASES TO OTHER MALADIES.

Consulting physicians habitually see a considerable number of patients who have been under the care of general practitioners, and are frequently surprised at the number of cases in which renal lesions have been overlooked because the symptoms which the patient has presented have not pointed directly to kidney disease, and the physician has not been careful enough in his examination of the patient to insist on a careful urinary analysis. This carelessness is chiefly due to the fact that the general practitioner is so pressed for time that he fails to make an analysis when he should do so, or else it depends on the fact that his primary medical training has not been of such a character as to teach him the importance of such examinations. As a matter of fact, there are few diseases met with among human beings which so frequently produce aberrant and unusual symptoms as disease of the kidney. It seems hardly worth while to point out that no case of severe headache should be treated for any length of time without a careful urinary analysis being performed, and again, the various neuralgic pains in different portions of the body, which do not yield readily to treatment, should at once be regarded with suspicion as evidencing deficient elimination of toxic materials from the system. So too, it is not uncommon for physicians to meet with cases of disturbed heart action due to renal changes, or with a subacute or chronic bronchitis, which fails to yield to ordinary methods of treatment and is found to be due to defective renal activity. In some cases, on the other hand, it is not to be forgotten that in association with changes in the kidneys there are primary or secondary alterations in the circulatory system, and a careful examination of the heart and arterial walls may reveal the fact that not only the kidneys but also the heart and vessels need the attention of the therapeutist.

In another class of cases digestive disturbances, varying widely in degree and character, may manifest themselves. Even continued nausea, or attacks of vomiting, may be dependent, not on any local condition, but on the presence of uremic poison in the blood, and urea poured out by the gastric mucous membrane undergoes an ammoniacal change and so irritates this viscus. In other patients, attacks of violent serous diarrhea, which give the patient much annoyance and cause great weakness, are in reality efforts on the part of the system to eliminate poisons which are accumulating so rapidly that, did active purging not ensue, grave toxemia would at once develop, and so the important lesson is learned that active purging in a patient with degenerated blood-vessels, or in a younger person with edema, should not be suddenly checked with opiates or astringents until the physician is satisfied that the kidneys are acting properly. In still other patients cerebral symptoms develop, such as dizziness and swimming in the head, and these should not be put down to a thickened tympanic membrane, or to middle or internal ear disease until all possibility of unhealthy kidneys has been eliminated from the case. Meniére's disease may be closely simulated by uremic intoxication. In connection with the question of bronchitis, we have neglected to speak of the frequency with which the prognosis, and, indeed, the diagnosis of pneumonia may be confirmed by urinary analysis. In many cases of renal lesion, consolidation of the base of the lungs or pulmonary edema will be looked for more carefully if the physician is aware of the fact that the urine is not as it should be, and usually the presence of albumin and casts in the urine of a patient suffering from pneumonia increase the gravity of the prognosis to an extraordinary degree.

Finally, it is not to be forgotten that cases are on record in which acute respiratory symptoms, depending on sudden pouring of liquid into the lungs, or edema of the glottis, has come on with great suddenness and apparently without any of the ordinary causes, these symptoms being entirely due to the uremic condition which in reality underlies them.

PATHOLOGIC ADAPTATION AND NATURAL HEALING.

The power of the organism to adapt itself to pathologic conditions is a subject of broad biologic as well as medical interest. That pathologic adaptation is receiving thoughtful attention is well shown by the frequency with which it is chosen as the subject of general addresses before medical gatherings. Thus, Nothnagel spoke on this topic before the pathologic section of the eleventh International Congress, in Rome, in 1894; and Welch delivered an instructive and scholarly presidential address on "Adaptation in Pathological Processes," at the Congress of American Physicians and Surgeons in 1897. In this latter, Welch reviews some of the most striking examples of adaptation seen in human pathology—the hypertrophies, regenerations, inflammation—and reaches the general conclusion that "the healing power of nature is, under the circumstances, present in desire, frequently incomplete and

imperfect, and systems of treatment based exclusively on the idea that Nature is doing the best thing possible to bring about recovery or some suitable adjustment, and should not be interfered with, rest often on an insecure foundation. The agencies employed by Nature may be all that can be desired; they may, however, be inadequate, even helpless, and their operation may add to existing disorder. There is ample scope for the beneficent work of the physician and surgeon." Welch emphasizes that in adaptation the agencies employed are such as exist primarily for physiologic uses, and that they often have no special fitness for securing good pathologic adjustment.

In a recent discussion of this subject, by Leube,[1] the power of an organ to act vicariously for organs performing similar functions is especially emphasized; the examples cited and discussed are, the skin and the kidneys, the stomach and intestines, the spleen and the lymph glands.

A degree of reciprocity between the skin and the kidneys certainly exists. The secretion of the sweat glands normally contained uric acid and urea; it is a familiar fact that profuse perspiration reduces the amount of water in the urine; and energetic diaphoresis is much used in nephritis for the removal of dropsical accumulations. Leube warns against the danger of diaphoresis in cases of subcutaneous edema, because while water is freely eliminated the excrementitious substances brought into the skin are not removed as freely; they are liable to be reabsorbed into the blood and produce intoxication. The salivary glands and the bronchial mucous membrane at times eliminate considerable quantities of urates (Fleischer). In uremia the vomitus may contain urea, but this is evidently not at all constant.

Suspension of the digestive activity of the stomach may be fully made up for by vicarious function of the intestine. This is well shown in experimental removal of the stomach, also by the good general nutrition sometimes observed in patients suffering from complete gastric achylia. Leube thinks that careful study of the factors brought into play in the exercise of vicarious intestinal functions would soon yield new therapeutic indications.

The bone marrow, lymph glands and spleen are the blood-making organs. The most important is the marrow. The enlargement of the spleen in chlorosis, and the apparently favorable course of the cases with splenic enlargement lead Leube to regard the enlargement as vicarious. The enlargement of the lymph glands after splenectomy and the consecutive lymphocytosis constitute another example of vicarious action of functionally homologous organs.

Finally, Leube cites instances to show that morbid processes may be modified in a way beneficial to the organism by increase in the activity of organs that perform wholly different functions from the diseased organ. In this category especially belong cases in which increased activity of various secretory organs helps to eliminate morbid fluids of various kinds and poisons. In addition to generally well-known facts of this kind, an example is cited of an enormous spontaneous salivation followed by complete resorption of an extensive ascitic accumulation; no less than three liters of saliva were discharged in a day. Therapeutic ptyalism, induced by chewing on pieces of rubber, gave unquestionably favorable results in exudative pleuritis.

It will be observed that the organism possesses numerous means for conquering diseases and eliminating disease products, and Leube calls attention to these mechanisms for the purpose of directing our therapeutic efforts as much as possible along the lines thus indicated by Nature.

[1] Deutsches Arch. f. Klin. Med., 1899, 66, p. 80 (Festschrift Ziemssen gewiidmet).

OSTEOPATHY IN KENTUCKY.

We devote considerable space this week to a legal decision rendered in Kentucky against one of the fads of the day. We do so because it covers the question in a legal and common-sense way, and gives us the inner workings of these "remarkable" people who have discovered, with the naked eye, nerves and "such" that scientific investigators with the best of microscopes have failed to discover in all the past. The legal decisions referred to and the arguments used will be useful to those in other states who intend to oppose this latest movement to debase medicine. The Board of Health of Kentucky deserves the thanks of the profession of that state for the excellent work it has done in keeping this and other forms of quackery out of its borders. It has required work and constant effort, and like energy, backed by a united profession, will have like results in other states. As the judge concludes: "It is singular, indeed, that in an enlightened age like this such humbug schools and ignorant pretenders should find recognition by the laws of any state."

A DANGEROUS EMPLOYMENT.

The article by Betts, in this issue of THE JOURNAL, on the dust pneumonia from a gold-mining plant, makes a serious indictment of the management of such establishments. A mill employing on an average fifty men, with a monthly change or discharge list of fifteen, would itself be significant of something wrong. When out of a total of about one thousand employed during five years, one hundred, "conservatively speaking," have already died, and there is a prospect of many more following them, we see the unquestionable evidence of one of the most fatal of occupations. Dr. Betts gives a record of thirty deaths of previously robust workmen whose average time from first employment to death was twenty-nine months, with details of some of the cases and autopsies showing the lung conditions and leaving no question as to the cause of death. It is only just to say that Dr. Betts closes his paper with the statement that the mill superintendent is doing his best to improve the conditions, which will, he thinks, in a measure, remove the cause of trouble. It would appear, however,

that there is a defect in the laws in regard to such unhealthful occupations that the publication of this experience ought to remedy.

THE SUCCESS OF WATER FILTRATION.

So important to the health of a community is the purity of its water-supply, that the interesting object-lesson afforded by the experience of the city of Albany, N. Y., in the matter of water filtration, should not be permitted to pass unnoticed. Having concluded, after due deliberation and thorough consideration of the subject, that filtration was the only immediate remedy for the contamination of its water-supply, derived from the polluted Hudson River, Albany, in fifteen months, erected a filtration-plant and put it into successful operation. Slow sand-filtration is the method adopted, and, whereas formerly typhoid fever was excessively prevalent, the water is now almost wholly free from bacteria, and, while formerly often discolored, is, besides, now perfectly clear. If anything has been learned of late years in connection with the water-supply, it is that filtration is not alone the most practicable, but it is the most potent, means at our command for purposes of purification and disease prevention. Of the truth of this proposition, and of its importance, evidence would seem to be afforded by the suggestion that has recently been made for filtering the water-supply of New York, which is received through the Croton aqueduct, and from protected water-sheds. It has been maintained that this water-supply is satisfactory, and that it does not breed disease, but it is now thought wise to remove, by means of filtration, even such slight possibility of contamination as may be conceived to exist.

PREMATURE BURIAL.

A prominent eastern physician has been quoted in the daily press as saying that 1 in every 200 interments is premature. The public is easily disturbed by such publications, and if they are not true they are abominable and, in fact, almost criminal. It is very doubtful whether even 1 in 1,000,000 burials is premature, and indeed, whether they ever occur except in times of great public panic, as in times of epidemic or in the extremely rare instances of prolonged and death-like trance. The sensational stories of conscious terror and helplessness given out are like ghost stories, common enough, but generally equally without a basis of fact. How anyone can give 1 in 200, or any other figure, as the number buried alive, it is hard to conceive, and such statements without adequate statistics to back them have no value whatever. The fact that a French inventor is or has recently been in this country endeavoring to introduce his device "Karnice" for preventing premature burials is probably the motive of the recent revival of newspaper interest on this subject, which has been gone over and rehashed many times in the past century. There is only one serious possibility of premature interment to be really considered, and that is in cases of epidemics with public panic and neglect referred to above. Under other conditions, when an individual apparently dies he does so practically and permanently, and the ordinary decent interval between that event and burial usually insures it in other ways. We need say nothing of the common fact of embalming or preserving bodies for burial, which puts resuscitation completely out of the question.

THE FUTURE OF THE X-RAYS.

In an article in a new periodical[1], Professor Trowbridge, of Harvard University, shows that the accidental or semi-accidental discovery by Roentgen of the rays that bear his name and thus immortalize him is still bearing fruits, and what it may lead us to is still in the future. One fact that is particularly suggestive is that certain salts of the element uranium and certain derivatives of pitchblende possess the property of giving off these rays, so far as to cause the lighting of fluorescent screens, the dissipation of electric discharges and rendering air and gases better conductors of electricity. They can also penetrate opaque substances and throw shadows of bones on photographic plates. These salts produce at least some of these effects when spread in the form of powder on cardboard, and hence the suggestion of far simpler methods of X-ray employment than those now in use. It would be a great thing if, as Professor Trowbridge remarks, we could by a simple powder do away with the elaborate Crookes' tubes and influence-machines now essential in X-ray work. Physicists have not yet reached that result, but the possibilities of the future seem unlimited. It is a curious fact that these radio-active substances appear to give off these rays, like magnets, without losing any energy, another striking fact that suggests advantages in their future possible utilization. A surgical X-ray outfit may yet be a very simple and inexpensive affair; a few jars of powder or some incrusted screens with photographic plates may be all that will be required. Such imaginations are not altogether unjustifiable when we consider that the original discovery is hardly over four years old, and that only lately a substance has been found that is hundreds fold more radio-active than the original uranium earth first employed. We need say nothing here of the other and purely scientific leads that have been opened by this discovery; they have not as yet a medical bearing, and therefore do not concern us so directly in our professional work. No one can tell, nevertheless, what new possibilities may exist, even in this particular direction, in the near future.

THE PHYSICIAN'S CONTRACT.

THE JOURNAL[2] recently mentioned the suit of one Thomas Burke in Indiana, for damages against a physician who refused to answer a call. Burke therefore held him responsible for his wife's death. We have now to note a suit in Connecticut, brought by one Daniel Burke against a physician for failing to attend at the birth of a child, for which he had been bespoken. The child died shortly after birth, and the father, as its administrator, sues the physician for breach of contract. Just why the suit is brought in this form we are not told, possibly it was a legal necessity, but the doctor's attorney raised the curious point that there was no contract with the child, who, being unborn, could not have acquired contractory ability. The woman apparently passed her emergency without injury, and only the child suffered

[1] International Monthly, MacMillan & Co., Vol. 1, No. i, January, 1900.
[2] THE JOURNAL, Nov. 11, 1899, p. 1234.

damage from any breach of contract that occurred. The point raised is a purely technical one, and the judge evidently so considered it, as his decision overruled the demurrer. The main question was, he held, whether there was a neglect of duty, the death of the child resulting therefrom; the complaint therefore stated a cause of action. If the contract existed, there was a neglect, and somebody must have been responsible for the consequences. The case does not seem parallel to the Indiana case, in which there was no mention of breach of contract.

BUBONIC PLAGUE.

Bubonic plague, to the medical profession of Europe and America, has been for many generations little more than a name met with in the history of epidemics. London became practically free from the dreaded scourge after the great fire. No doubt the latter was a factor of some importance in the prompt dissipation of the infection; but as the disease disappeared gradually from continental cities which had not been burned to the ground, other agencies must have been concerned in its suppression. If these agencies were, as many believe, the sanitary improvements of progressive civilization, we have surely at the present time no ground for anticipating any disastrous invasion, for the sanitary conditions under which we live are infinitely superior to those in existence when the plague ceased to prevail epidemically among the nations of Europe. Besides this we have now available for the protection of the people a more intimate knowledge of the causation of the disease and of the methods by which its progress may be stayed. During the past quarter of a century the existence of oriental plague has been reported from time to time in southeastern Russia and in some of the seaports of China. During the past six years it has spread extensively from these latter to the crowded and filthy habitations of the poor of many oriental cities. Recently it has passed the Red Sea and the Mediterranean, and even crossed the Atlantic to the coast of South America; and within the past few days information has been received of its appearance in Honolulu, Hawaiian Islands, and in Manila in the Philippines With the establishment of national quarantine stations at Manila and Honolulu, there need be no fear of an introduction of the disease into the United States, for our modern methods give us two safeguards, the first assuring that no infection shall be embarked at the infected port, and the second that no infection shall be disembarked at the home port. San Francisco, Cal., is already provided with the means to intercept infection, and it is understood that arrangements are in progress to have the needful equipment for disinfection and detention for observation established in Hawaii and the Philippines. But should the infection pass these double guards and effect a lodgment on our soil, there need be no fear of a recrudescence of the pestilence of the Middle Ages of Europe in the United States at the close of the nineteenth century, for, as we argued at the beginning of this article, the sanitary conditions under which we now live are infinitely superior to those which attended the decadence of the plague in Europe more than two centuries ago.

MARINE-HOSPITAL SERVICE REPORT.

The advance sheets of the U. S. Marine-Hospital Service health reports, of the concluding pages of Vol. xiv, contain some figures of interest. They show that while there has been a scattering epidemic of smallpox during the past six months, in the country, some 2000 cases altogether, the mortality has been very slight—scarcely 1.5 per cent. Undoubtedly the mass of the cases were of the milder type of varioloid, like the 125 reported as occurring at Dixon, Ill., where it long passed unrecognized, as "Cuban chicken-pox." Yellow fever has hardly been an epidemic anywhere except at Key West and Miami, Fla., and to a very slight extent in one or two other localities like New Orleans, La., and Jackson, Miss. Its mortality has also been small, less than 7 per cent. In Cuba also it was comparatively slight, though its mortality was greater. The worst locality was Santiago, with 230 cases between June 10 and December 9, and fifty deaths. The highest mortalities here reported are from Mexico—Cordoba and Vera Cruz—with 147 and 248 deaths respectively. The plague statistics from India are not encouraging, either as to death ratio or number of cases. The disease is reported as epidemic in Kobe, Japan, practically at our back door. Hongkong has the record as to mortality, with a total of 1640 cases and 1582 deaths between April 11 and October 28. From what we can learn, the disease seems to be confined to the natives, and its prevalence has excited comparatively slight attention. The usual tables of mortality of foreign and American cities are given, also the reports of immigrant inspectors of the Marine-Hospital Service abroad. The value of the service of these officials is readily appreciated for the main ports of embarkation, but the good some of these can do is lessened by the fact that in some cases, after inspection, the vessels touch and pick up passengers at various ports. Attention is called to this by Surgeon Anderson, stationed at Barcelona, and it would appear that the point is well worth notice by the bureau officials. The advance sheets of the beginning of volume xv, issued January 5, contain additional data as to epidemic diseases here and abroad, and a report on epidemic dysentery in Japan, by Dr. Stuart Eldridge, sanitary inspector at Yokohama. The continuance of yellow fever at Havana is noted, where it is considered due to the large number of unacclimated Spanish emigrants.

Medical News.

A CONTRIBUTION of $100,000 has been made to Harvard University for the investigation of cancer.

THE NEW building of Hamline University Medical College, Hamline, Minn., was formally opened the evening of the 1st.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., has been appointed surgeon-general of the National Association of Spanish War Veterans.

WITH THE number for January, the *N. C. Med. Jour.* changes its name to the *Carolina Med. Jour.*, and becomes a monthly instead of a semimonthly.

THE AMERICAN colony's charity ball was given in the City of Mexico on January 1, and was attended by

President Diaz and wife. The entire proceeds of the ball will be given the American Hospital of that city.

THE FATHER and widow of Dr. Brault have equipped, as a memorial, a complete radiographic and electro-therapeutic service at the Saint-Louis Hospital in Paris.

DR. N. S. DAVIS, the Nestor of the ASSOCIATION, celebrated the eighty-third anniversary of his birth on the 4th. Dr. Davis is still well and active, walks to his office daily, and this anniversary day found him at his desk at the usual hour.

THE FORMER officers of the Illinois State Board of Health were re-elected, at the meeting of the Board on January 9. They are: president, C. B. Johnson, Champaign; treasurer, R. F. Bennett, Litchfield; secretary, J. A. Egan, Springfield; attorney, John A. Barnes, Chicago.

THE FIRST general assembly of the professional syndicate of the scientific press was held at Paris, Nov. 21, 1899, preceded by a banquet. The representatives of the medical press were in the majority, but architects, civil engineers, electricians, etc., were also in evidence. The secretary-general is Dr. Bilhaut, 5, avenue de l' Opera.

PROFESSOR SCHENCK, Vienna, according to the lay press, has been given permission by the Minister of the Interior, to retire on a pension. The faculty of the University of Vienna, of which he is a member, is said to have demanded his dismissal for the alleged frivolous publication of scientific matter constituting a form of self-advertisement, concerning his investigations on the theory of sex.

A PHYSICIAN who prescribes and sells to his patients whisky, brandy, wine or any other alcoholic liquor that is not compounded into a medicine by the admixture of any drug or medical ingredient therewith, is required to pay special tax as a retail liquor dealer, even though the alcoholic liquor thus furnished be prescribed as a medicine only and so used, according to a recently reported decision of Commissioner Wilson of the U. S. Department of Internal Revenue.

THE FRENCH Minister of the Interior has appointed a committee of forty-eight members to suggest practical measures to arrest the spread of tuberculosis. It includes a large number of physicians, architects, members of municipal councils, and of societies for the erection of homes for working people, etc. The *Progrès Médical* observes that practical measures abound; the question is to raise money to apply them, and suggests that as alcohol is responsible for over four-fifths of the cases of tuberculosis in the hospitals, the liquor trade should be made to in some way supply funds for the maintenance of sanatoria for tuberculous subjects.

THREE VICTIMS OF "CHRISTIAN SCIENCE."—At an inquest in the case of a young girl who died in Council Bluffs, Iowa, last week while under the care of a "Christian Scientist," it was discovered that death was caused by appendicitis. It is probable that criminal proceedings will be instituted against the "healer." Two deaths under similar conditions are reported from New Brighton, Pa., where a "Christian Scientist" treated a family stricken with diphtheria, with fatal results in two cases.

QUARANTINE EXTENSIONS.—An executive order issued by the President, extending the Marine-Hospital quarantine regulations over the Philippine Islands, has been promulgated by the U. S. War Department. The chief quarantine officer is to be stationed at Manila, and not exceeding $300,000 a year is to be paid by him for quarantine purposes. All vessels leaving these ports will be required to take out bills of health showing compliance with the quarantine regulations. The quarantine officers will have authority over all vessels arriving at these ports, except the war ships of the navy, which will be subject to special regulations to be promulgated by the war department.

NO DAMAGES AGAINST A MUNICIPALITY FOR DEATH FROM DISEASE.—From the *Sanitarian* of January, we learn of a remarkable decision of the Court of Appeals of New York in a suit against the City of Auburn for damages for a death from typhoid that was alleged to have resulted from a defective sewer, that in storms overflowed into the cellar of the decedent. There was no denial on the part of the city of a knowledge of its negligence. The court held that the statute that permits action for damages by reason of death caused by the wrongful act, neglect or default of another has no application in such a case, and that no action against the municipality can be maintained by an individual for damages from sickness caused by the neglect of public officers to observe sanitary laws. This may be good law, but it seems from the point of view of the physician and sanitarian to be very poor justice. It is possible that making municipalities liable in damages for sickness and death resulting from the criminal neglect of sanitary rules by public officers would result in some unpleasant occurrences, but there can be no question that the general result would inevitably and powerfully tend to make public officials vastly more solicitous of the hygienic necessities of a city, even at the cost of some neglect of the political machine.

MEDICAL EXAMINATIONS IN OHIO.—The students of the medical colleges of Cleveland, Ohio—according to the local papers—are organizing for an effort to defeat the proposed medical legislation advocated by the doctors of the state. Their claim is that as regards themselves the law would have an *ex post facto* tendency, as they entered on their studies with the prospect that their diplomas would at once admit them to practice, and, in fact, they are said to make the general claim that a diploma from a reputable college ought to be all-sufficient. They say the examining board will be a political affair, and that the measure is instigated by the fear of disastrous competition with the graduates of the "grand medical colleges of Ohio"—who dread the examination under the proposed law—and that they will have the faculties of the said colleges on their side in this movement. It looks as if a determined fire in the rear might be made from this unexpected quarter to defeat the law.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF PRACTITIONERS.—The N. Y. Society for the Relief of Widows and Orphans of Medical Men has just issued its fifty-eighth annual statement. From this we learn that the Society was organized in 1842, with less than sixty members. In 1848 the membership was 80, in 1858 it was 110, in 1870 the roll was 125, and the number of members at the present time is 137. The first application for relief was in 1852, and at the present the number of beneficaries is 24. Its funds now amount to $234,981.86, and are securely invested. The income for the past year was $10,301.59. The initiation fee is $25, the annual dues $10. The payment of $100 constitutes a life membership. The payment of the annual dues for twenty successive years constitutes an annual member a life member. Under the

present by-laws of the society, the annuities allowed are, to the widow of a member an annuity of $400 a year, but for every $10 or multiple of ten of income an amount equal to 50 per cent. of said income shall be deducted from the annuity. Each child entitled to relief is allowed $100 per annum, subject to the same conditions as a widow. The society has extended aid to 18 widows and 6 children of deceased members during the past year. The present officers are: President, Dr. David Webster; vice-presidents, Drs. A. B. Judson, E. Herrick and J. D. Bryant; treasurer, Dr. Henry Guck; secretary, Dr. A. F. Currier. The showing made in the good work done and in the economy of management illustrates how much benefit might accrue from such an organization on a large scale, provided a similar excellent management could be depended on.

MEDICAL SERVICE IN THE TRANSVAAL WAR.—Sir William MacCormac writes to the *Lancet* of December 23, of the hospital at Wynberg, known as General Hospital No. 1. This is seven or eight miles from Cape Town, South Africa, on the sloping ground of Table Mountain, an ideal situation both from a scenic outlook and the excellence of the climate, for howeve. hot it may be in Cape Town, the location of the hospital always gives it a pleasant breeze. The wards are in part in the permanent buildings, but mainly in wooden and iron huts, containing fourteen to twenty beds each, and are lighted by electricity. The sanitary arrangements are very complete, and there is accommodation for 520 patients. At the time of writing, Nov. 25, 1899, 300 beds had already been filled with wounded from the earlier battles of Glencoe, Dundee, and Elandslaagte. An X-ray room has been fitted with modern apparatus and an operating theater of iron and wood has been built. Its furniture is of the well-known glass and iron type, with all necessary accessories. He says that it would be difficult, if not impossible, to secure better treatment in any hospital than the patients receive in Wynberg, and that "never before was an expedition more abundantly equipped with every resource which the medical authorities can suggest for the welfare of the sick and wounded. He makes brief notes of a number of cases in the hospital, and also describes one of the hospital trains, each coach of which contains twelve beds for the wounded and sick. These beds are placed endwise in three tiers, and have three-inch hair mattresses on canvas stretchers and are most comfortable. A simple arrangement admits of easy access to the bed from the stretcher. Some of the beds are fitted up as fracture beds. The saloon carriages making up the train have been remodeled so that they open at each end, allowing a passage way from one end of the train to the other, and one is devoted to kitchen service.

ILLINOIS.

BY THE will of the late Roswell D. Lyman, $25,000 is bequeathed to the Stuart Ryburn Memorial Hospital, Ottawa. It is stated that the will is to be contested by relatives of the testator.

THE SECRETARY of the Illinois State Board of Health and the health officer of Dixon have issued a joint denial of the sensational statements published in the lay press to the effect that smallpox was epidemic in the Illinois Normal School at Dixon. The reports are characterized as being greatly exaggerated.

Chicago.

DR. M. L. HARRIS has been elected attending surgeon of St. Luke's Hospital.

THE CONDITION of Dr. John G. Craig, who was recently struck by Panhandle engines—see last week's JOURNAL—is still serious.

TWO CASES of smallpox, imported from Columbia, Tenn., were discovered by Chief Medical Inspector Spaulding, January 8.

DR. D. D. EADS of Paris Ky., and Mrs. Annie L. Hartwell were married January 1. They will reside in Chicago.

DR. H. B. HEMENWAY will occupy the chair of preventive medicine in the College of Physicians and Surgeons during the remainder of the college year.

DR. W. A. EVANS addressed a meeting of the stockbreeders and dairymen, in session January 6, on the danger of milk taken from cows suffering from tuberculosis.

POSTAL CARD blanks for reporting all cases of contagious diseases are being supplied by the Health Department to every physician in the city.

THE NEW sanatorium of the Alexian Brothers' Hospital was formally opened last week. The new department contains the latest appliance for treatment by hydropathy, electrotherapy, massage and Swedish movement.

THE FUND for the erection of a hospital for consumptives is now $11,500, $1400 having been subscribed during the past week. It is intended to commence work on the structure when the amount reaches $25,000.

LOCAL physicians expect another epidemic of la grippe, as many cases have recently appeared. So far the disease has been of a mild type and has been confined to young children and persons over 60 years of age.

INSPECTION OF SCHOOLS.

Fifty medical inspectors of schools were assigned to their duties January 8. They were instructed by Dr. W. S. Christopher in their relations to the Board of Education. He informed them that they were not responsible for the medical treatment of children, but were simply to protect the schools against infection. Health Commissioner A. R. Reynolds instructed them as to the manner of conducting examinations.

MORTALITY STATISTICS.

The total mortality for the past week was 518, being an excess of 64 over that of the preceding week. This excessive number is due to the prevalence of pneumonia and bronchitis. These two diseases are accountable for 25.5 per cent. of the total mortality, there being 91 deaths from pneumonia and 41 from bronchitis. The mortality from diphtheria during the week is in excess of that of any week during the past year, there being 28 deaths from this cause, as compared with 27 the week previous.

MERCY HOSPITAL REPORT.

The Mercy Hospital has issued the golden jubilee number of its annual report, which contains a history of the institution since its foundation in 1850, and is embellished with a number of illustrations of the wards. The financial report shows that the total receipts for 1899 were nearly $90,000, and the expenditures were upward of $84,500. During the year 1948 patients were admitted.

THE DRAINAGE CANAL.

The partial opening of the Chicago Sanitary Drainage Canal for the purpose of filling the ditch, has already greatly improved the quality of the lake water and the appearance of the Chicago River to an extent unknown during the past thirty years. Contrary to the general opinion, the water has not yet been allowed to pass the gates at Lockport, which will not be opened until the latter part of the month. At a meeting of the trustees of the canal, January 8, Health Commissioner Reynolds outlined the results of his inspection during the summer, of the water taken at forty different points in the Illinois and Mississippi rivers. He stated that St. Louis would be benefited instead of injured by the channel; 10,000 samples of water were analyzed by the staffs of the University of Illinois and University of Chicago. Dr. Reynolds said that Bridgeport is contaminated to the extent of 95 per cent., at Joliet 85 per cent. at Ottawa there is an improvement of 65 per cent., and at La Salle the water is practically pure. The water at Peoria is said to be as foul as at Bridgeport. Then comes another gradual purification, and at Havanna 60 per cent. of the germs have disappeared, and when the fluid reaches Grafton, the junction of the Illinois and Mississippi rivers, it is practically pure again.

OHIO.

THERE were eight cases of smallpox at the isolation hospital, at Columbus, January 3.

DR. FRANCIS M. MICHAEL of Eaton is suffering from septicemia.

DR. W. E. RANZ, a graduate of the Miami Medical College, has been appointed assistant surgeon to the Soldiers and Sailors Home, Sandusky, Ohio.

CINCINNATI MORTALITY STATISTICS.

The mortality from contagious diseases shows a decrease of 39 over that of the past week. There were 4 cases of diphtheria, one of which was fatal; 14 cases of scarlet fever, 2 fatal; 6 of typhoid, 2 fatal; 1 of consumption, and 9 deaths.

REGISTERING AND EXAMINING BOARD.

At a meeting of the State Board of Medical Registration and Examination, held January 2, the following officers were re-elected for the ensuing year: president, N. R. Coleman, Columbus; vice-president, H. E. Beebe, Sidney; treasurer, David Williams, Columbus; secretary, Frank Winders, Columbus.

DAMAGE SUIT FOR DISINFECTING.

Suit has been filed against the City of Toledo by a smallpox suspect who was confined in the city pest-house. He alleges that his house was entered by the health officials, who damaged his furniture by burning sulphur as a disinfectant, thereby causing a loss of $325, which he seeks to recover by legal procedure.

KENTUCKY.

A NEW pest-house for smallpox patients is building at Owensboro.

DR. I. M. POYNTZ of Richmond, president of the Madison County Board of Health, tendered his resignation as a member of that body January 4.

THE TRUSTEES of the Owensboro City Hospital have appointed the following physicians as a hospital staff: C. H. Todd, Wm. E. Irvin, D. M. Griffith, J. P. Heavrin, C. C. Lewis, S. S. Watkins, and E. B. McCormick.

EASTERN KENTUCKY INSANE ASYLUM.

The seventy-fifth annual report of the Asylum, Lexington, has just been issued. It contains one from the Board of Commissioners, suggesting that the name of the institution be changed to State Hospitals for the Insane; that the management of the charitable institutions of the state should not be subject to the mutations of politics, rather be governed by civil service; that the medical superintendent and steward be elected by the Board of Commissioners; the other appointees being appointed by the medical superintendent. The special appropriation of $30,000 has been expended, resulting in the completion of the infirmary in every detail. The number under treatment during the year was 1092. A calculation based on the whole number of patients shows that about 4 per cent. recovered. The mortality of the whole number cared for was 6.45 per cent.

STATE BOARD OF HEALTH.

The annual report of the secretary of the State Board of Health, prepared for the legislature, contains the reports of the county boards of health, a list of their members, and the laws under which the State Board acts. The secretary makes an urgent appeal for an increase in the annual appropriation of $2500. Comparison is made with the appropriation last year in the states of Texas, Massachusetts, Illinois and Louisiana, in each of which the appropriation exceeds $50,000. In order to keep pace with other states, it has been necessary for the four hundred physicians composing the county and municipal boards of health to serve entirely without compensation. The report deals exhaustively with the yellow fever and smallpox epidemics. The work of the Board in the former was very prompt and thorough. Inspection of all trains was thorough, baggage was disinfected, destination noted and reported to local health authorities. Only three cases of yellow fever developed in all the refugees who came to Kentucky, and not one in her own citizens. The first case of smallpox was in Jellico, Tenn., in January, 1897. A severe epidemic raged at Richmond and Middlesboro, Ky., chiefly because the work of the inspectors and vaccinators was not allowed to proceed, on account of the refusal of the county authorities to meet expenses. There were over 1500 cases reported in the state, the total cash cost of municipalities in the affected counties being $57,000. Attention is called to the question of vital statistics, in the following language: "Our statute regulating the collection of births, marriages, and deaths, important questions to any civilized people, is obsolete and wholly inoperative. Until the law is amended and vitalized, any compilation and publication of the returns would be worse than useless, as it would not only be unreliable, but misleading."

HEALTH OFFICER'S AUTHORITY.

Henderson, Ky., has just had a legal question decided of considerable interest: Dr. H. E. Griffith was vaccinated on Nov. 10, 1899, and on the 19th developed what he claimed was vaccinia. The health officer claimed it was smallpox, and made preparation to have him removed to the pest-house. Learning of this Dr. Griffith asked the court for an injunction against Mayor Thompson and Dr. Moseley to restrain them from removing him to the pest-house. The attorney for the defense claimed that Dr. Moseley was not even a member of the City Board of Health; that he was only acting under authority of a committee of the common council, and that the mayor had no right to appoint him. Judge Dorsey sustained the appeal for an injunction, gave the plaintiff his complete liberty, and gave his opinion that Dr. Moseley was not the legally constituted health officer of Henderson County.

Louisville.

DR. JOHN MASON WILLIAMS has returned from the Philippines and has tendered his resignation as acting assistant-surgeon. He served with the army in Cuba, then sailed for the Philippines last May, and had two weeks' active service with the troops at the front, returning to this country with wounded and sick, and then serving in the smallpox hospital at the Presidio, San Francisco, Cal., for several weeks.

THE SUPERINTENDENT of the City Hospital has submitted his annual report, showing that improvements have been made costing $5000. Recommendations are made for an additional ambulance and stable, a separate building for tubercular patients and one for contagious diseases of childhood. The cost for improvements and expenses he estimates at $40,000.

NEW YORK.

A BEQUEST of $5000 has been left to the Syracuse Woman's and Children's Hospital.

INVESTIGATION OF FOOD.

A bill has been introduced in the legislature which provides that the commissioner of agriculture shall investigate and examine the food and food products that are manufactured, sold and exposed for sale in the State of New York, and for that purpose appoint such agent or agents and employ such chemist, chemists or other experts as he may deem necessary. The sum of $10,000 is appropriated for the purposes of the act, which also specifies that the commissioner of agriculture shall report to the legislature on or before Jan. 15, 1901, the result of the examinations made, with recommendations as to such legislation as he may regard necessary for the corrections of evils existing relative to food or food products.

New York City.

ST. VINCENT'S Hospital has just put into service a thoroughly up-to-date horseless ambulance, which is propelled by an electric motor run by a storage battery. It cost about $3000.

AN AMBULANCE of the Hudson Street branch of the New York Hospital was recently wrecked in a collision with a Madison Avenue trolley-car, and the surgeon, and the driver were seriously injured.

HEATING OF CARS.

There have been so many complaints regarding both the overheating and underheating of street cars that the Health Department has sent out a number of inspectors with instructions to examine into the sanitary condition of both the elevated and surface railroad cars, and report. There is good ground for complaint, for it is no uncommon experience for passengers to ride for a time in a comfortably heated car and then be transferred to another car and be compelled to shiver for the rest of the trip. This shows that the weather can not be blamed, and it must be evident to all that changing to cars of widely differing temperature is an excellent method of provoking an attack of pneumonia.

FEES AND PATIENTS' TREATMENT.

Complaints having reached the superintendent of Bellevue Hospital that some of the house staff have been in the habit of accepting money from patients, and also that nurses and other employees have received tips, Charities Commissioner Keller has had promulgated a regulation that no employee of the Department of Public Charities shall accept from a patient or other inmate any sum of money, for any purpose whatever, except with the knowledge or consent of the superintendent of the institution in which the patient or inmate may be, and that any infraction of the rule will be punished with instant dismissal.

PENNSYLVANIA.

LEWISBURG, January 1, celebrated the establishment of a new water system. The supply is so arranged that three surrounding towns may be supplied by the same source.

BY THE will of Jacob Jay Vandegrift, of Pittsburg, $2500 has been left to the Allegheny General Hospital; $2500 to the West Penn Hospital, and $2500 to the Pittsburg Free Dispensary and $100 to the Home for Incurables, all of Pittsburg.

A MEETING of the Pennsylvania Medical Examining Board was held January 4 and 5, every member present. The examination papers of the different candidates who were examined at the June, 1899, meeting were carefully noted, and it is said will be embodied in a report to be filed at Harrisburg. The contents of this report has not been made known. The recent charges made relative to frauds committed by applicants before the Board, and mentioned in these columns, will be carefully sifted.

Philadelphia.

A LYING-IN hospital will be established by the Salvation Army here.

ON JANUARY 2 the alumni of the Jefferson Medical College gave a smoker to the students of that institution.

OWING TO the extreme cold weather, with consequent icy pavements during the week, an unusually large number of injuries has resulted and the hospitals have been kept very busy.

THE BUREAU of Health has given instructions to prosecute those persons guilty of selling milk which had been "watered." Another prosecution has been ordered by this department in the case of an undertaker who failed to state, in the funeral notice, that the person had died of a contagious disease.

THE number of deaths during the past week was 513, an increase of 51 over last week, and a decrease of 200 over the corresponding period of last year. The principal causes were: apoplexy, 9; nephritis, 39; cancer, 12; tuberculosis, 56; diabetes, 3; heart disease, 57; influenza, 8; peritonitis, 10; bronchitis, 16; pneumonia, 101; appendicitis, 2; septicemia, 2; suicide, 2; tetanus, 2.

THE BOARD of Health of Braddock borough, after being practically disbanded for some time, was reorganized January 3. The officers are: president, W. M. Carothers; secretary, John Richard; health officer, Frank P. Louis.

WORK OF BENEVOLENCE.

AT A recent meeting of the Mutual Aid Society of the Philadelphia County Medical Society resolutions were adopted expressing appreciation of the benevolent work of Dr. Albert Fricke, for the widows and orphans of the Society, of which he was an honored member. Dr. Fricke bequeathed $10,000 to the permanent endowment fund of the Philadelphia County Medical Society.

MEAT INSPECTION.

During 1899, 126,334 head of cattle and 50,089 calves were inspected; 255 head of cattle were condemned, 2 being affected with actinomycosis, 229 with tuberculosis and 24 with other diseases; 3063 calves were condemned as "monkey calves," and their sale for butchers' meat prevented; 7423 visits were made to slaughter-houses, and all markets were visited twice a week; 11 persons were arrested, among whom there were several convicted for selling unwholesome meat.

DISPENSARIES AND FREE SOUP.

At the present time five societies provide nourishing soup and bread for those who are in want. Such work has just begun and will continue for ten weeks. The city is districted so that all portions are covered. One of the societies was established as far back as 1836. The matron of one states that there has been a marked falling off in the number of applicants as compared with last year. Should the good times cause this falling off, there will be a corresponding decrease in the number of patients at the different free dispensaries of the city, since many of the ailments seen there are due to impure, or lack of, food.

MORTALITY STATISTICS.

Registrar Shaw of the Bureau of Health has submitted his report of the deaths for 1899. It shows that there were 23,796 deaths, or more than 6 per cent. more than in 1898, though the rate per 1000 of estimated population is considerably reduced. Of the whole number of deaths in 1899 there were 4560 under 1 year of age, 2496 between the ages of 1 and 5, and 5677 over 60 years. Of these, 145 deaths resulted from membraneous croup, 849 from diphtheria, 132 from scarlet fever, 146 from cerebrospinal meningitis, 2818 from tuberculosis, 2424 from pneumonia, 294 from influenza, 1482 from heart disease, 726 from cholera infantum and 766 from old age.

PAY HOSPITAL FOR CONTAGIOUS DISEASES.

A meeting of those interested in the establishment of a pay hospital for contagious diseases has been held. The Woman's branch of this hospital has been organized, and $4000 has already been subscribed. It is believed that an appropriate lot will cost $25,000 and a disinfecting plant $12,000. In order to raise funds for this purpose an entertainment will be given at the Hotel Walton on February 7.

DISTRICT OF COLUMBIA.

Washington.

THE COMMISSIONER of Pensions has appointed Dr. R. W. Baker and Dr. F. V. Brooks to succeed Drs. J. P. Burwell and A. C. Lattimer in the local medical pension examining board.

IN CONGRESS.

The following bills have been introduced during the present session of Congress: Senate No. 34, for the further prevention of cruelty to animals in the District of Columbia—the anti-vivisection bill, printed elsewhere in this number of THE JOURNAL—by Senator Gallinger. Senate No. 1782, to issue warrants to acting assistant-surgeons of the U. S. Army, who served as medical officers either in the late Civil War or the Spanish-American War or the Philippine rebellion, by Mr. Platt of New York—see THE JOURNAL of Dec. 9, 1899, p. 1506. House of Representatives, No. 4476, providing for the appointment of members of the medical profession on the board of appeals in the office of the U. S. Secretary of the Interior, to whom shall be referred all medical and surgical questions, by Mr. Young of Pennsylvania. House of Representatives, No. 4483, for an increase in the medical department of the army, by Mr. Emmerson—*loc. cit.* House of Representatives, No. 4618, for the establishment of a food bureau in the U. S. Department of Agriculture, and for preventing the adulteration and misbranding of foods in the District of Columbia and the territory, and for regulating interstate commerce therein and for other purposes, by Mr. Babcock. House of Representatives, No. 5256, to appropriate $55,000 for the repair of the Army and Navy General Hospital at Hot Springs, Ark., by Mr. Little. House of Representatives, No. 5270, providing for the erection of a convalescent hospital at Vancouver barracks, State of Washington, by Mr. Jones. This bill provides an appropriation of $175,000, to be available immediately, for a hospital for the reception of sick soldiers returning from the Philippines, the work and money expended to be under direction of the U. S. Secretary of War.

MARYLAND.

REPORT ON FEEBLE-MINDED.

The sixth biennial report of the board of visitors of the Maryland Asylum and Training School for Feeble-Minded Children, shows that the institution is making rapid strides. It has 94 inmates. The buildings have been enlarged and several new ones erected. Attention is drawn to the fact that the institution gives accommodation to but a small proportion of the feeble-minded children in the state, yet it is overcrowded, and appeals for admission have to be refused. The managers have proposed plans for enlargement to a capacity of 500, and an appropriation of $125,000 a year for the next two years will

be asked from the legislature, now in session. The inmates are given a thorough mental training, and there is also an industrial department. A number were so improved during the year as to warrant their discharge.

Baltimore.

THE ANNUAL dance of the nurses of the Maryland University Hospital was held on the 5th inst. Luncheon was served.

AN APPROPRIATION of $576 has been allowed the Health Department for the purchase of diphtheria antitoxin.

MR. CHARLES ADLER has given the Hebrew Orphan Asylum and Hebrew Hospital each $500 in memory of his wife, who died recently.

THE UNIVERSITY of Maryland has 318 students in its medical school with 200 dental and the same number of law students. The Woman's Medical College has 22 enrolled.

WORK IN the chemical laboratory of the Johns Hopkins University, recently burned, was resumed on the 4th inst., the building having been temporarily repaired.

THE FLINT CLUB.

The Flint Club, composed of physicians, and named after the late Prof. Austin Flint, held its annual meeting and banquet on the 4th inst., Dr. James Bosley presiding. Speeches were made by the Mayor of Baltimore and others. The club never elects officers, the members filling the various offices in alphabetic order. Meetings are held once a month, and during the year each member is required to tell a story, write a poem or sing a song. No words of over four syllables can be used in any of these.

ABOLISHMENT OF HEALTH DISINFECTORS.

In the sweeping retrenchments made by the new administration of Baltimore, many offices are being abolished and salaries being cut down. Among the abolished positions are those of the disinfectors of the Health Department. The mayor directs that the work of disinfection be done hereafter by the sanitary inspectors. The health commissioner urges that the work now devolving on the latter occupies their time fully and renders it impossible for them to assume any additional duties. They now inspect nuisances, prosecute cases, and take charge of the city's sick. The mayor insists that they assume also the work of disinfection, as was done prior to 1895.

Correspondence.

Trip to Paris.

OTTAWA, ILL., Jan. 10, 1899.

To the Editor: The committee having in charge the proposed European excursion for the Illinois, Iowa and Missouri state medical societies has just completed its arrangements for the ocean voyage. We shall place our party in charge of Hon. Frank C. Clark, of New York City, who has had a large and successful experience in conducting tourists all over the world. We have assured ourselves that all accommodations will be first-class; and that everything will be done to make the trip an ideal one. The steamship *City of Rome* has been chartered for our party, and will sail from New York, June 30, 1900. The main trip will occupy thirty-eight days, at a cost of $260, all necessary expenses included. Or if a more extended trip is desired, provision is made for a week in Switzerland and down the Rhine for $70 additional; also a fourteen-day trip through Italy for $100 additional. Tickets are good for one year.

The European tourist next year will be subjected to more than the usual crowding on steamers, at hotels, extortions and annoyances which detract so much from the pleasure of a tour in foreign countries. These we have anticipated and provided against. No more passengers will be booked than can be comfortably accommodated.

For further particulars, address, J. W. PETTIT, M.D.,
Member of Committee of Arrangements for Illinois State Medical Society.

Quackery in West Virginia.

CLARKSBURG, W. VA., Jan. 5, 1900.

To the Editor: The physicians of this state are making a determined fight against all forms of quackery. We are not making any criticisms in regard to any system of medicine, but are desirous of requiring all who practice medicine to conform to the laws of our state. For the past two years we have had a great deal of trouble with osteopaths and "Christian Science" practitioners, inasmuch as they refuse to take the examination, claiming that they are not practicing medicine. The statute of our state is very plain, and we now have an indictment against these people which we are desirous of pushing to the bitter end. Will you or your readers send me any court decisions bearing directly or indirectly on matters of this and similar character? Should any be sent by express, please send via the United States Express Co., if that be practicable. I am willing to pay all expenses in connection with procuring evidence of this character. Thanking you for your kindness, I am,

Yours very truly, M. P. GOFF, M.D.

[We would refer our correspondent to the decision against one of the current fads in another part of this issue.—ED.]

Pathologic Exhibit of A. M. A.

WASHINGTON, D. C., Jan. 3, 1900.

To the Editor:—My attention has been called to the proposition to establish a national pathologic exhibit in connection with the meetings of the AMERICAN MEDICAL ASSOCIATION, and I write you to say that I most heartily concur in the belief that it would prove of interest and value to the members of the ASSOCIATION.

This Hospital has a large number of interesting pathologic specimens which we will gladly furnish to assist in such an exhibit, and I am sure there are many similar institutions throughout the country that would be able to contribute matter of decided value and interest also. I hope that all those interested in the subject of pathology will co-operate to make this proposed departure a success, and creditable to the AMERICAN MEDICAL ASSOCIATION,

Very truly yours,
A. B. RICHARDSON, M.D.,
Superintendent Government Hospital for the Insane.

Canada.

(From Our Regular Correspondent.)

TORONTO, Jan. 6, 1900.

DR. MINNIE GOMERY will leave Montreal shortly as a medical missionary for India.

THE TRUSTEES of Notre Dame Hospital, Montreal, are contemplating the erection of a new building possessing all the most modern and approved appliances.

DR. RUTTAN, registrar of the medical faculty of McGill, has returned to Montreal after inspecting the teaching appliances in the medical colleges in New York, Boston, Philadelphia and Baltimore.

A YOUNG man in Toronto has gone insane over the war in South Africa.

DR. JAMES BELL, Montreal, will read the address in surgery at the next meeting of the Medical Society of Nova Scotia, to be held at Amherst, July 4 and 5, 1900.

DR. MAUDE E. ABBOTT, assistant curator, pathologic museum McGill University, has left on a visit of inspection to some of the medical museums of the United States, including New York, Baltimore, Washington and Philadelphia.

WHILE carrying a bottle of ether to the sink in a Toronto engraving house, a young man had occasion to pass the furnace. The heat from the furnace ignited the bottle of ether and the man was very badly burned about the face, arms and shoulders.

TORONTO VITAL STATISTICS.

The vital statistics for this city during the year 1899 show a decrease of 115 births and an increase of 423 deaths over the figures of the preceding year. Marriages show an increase of 145. The birth-rate of Toronto is now at the figures recorded ten years ago. The totals for 1899 are: births, 4007; marriages, 1841; deaths, 3294.

ASYLUM AT FALCONWOOD, P. E. I.

Before the final report of the commission of inquiry into the irregularities at the P. E. I. provincial asylum has been handed in to the government, the visiting superintendent, Dr. Blanchard, who has had the medical supervsion of this institution for the past twenty-five years, has been dismissed by the government, his dismissal to take effect in February.

SMALLPOX IN QUEBEC.

Dr. Beaudry, inspector of the Provincial Board of Health, Montreal, who has been in charge of the work of suppressing smallpox in Kamouraska and Matane counties, Que., states that the disease has not yet been stamped out in those districts, though it is well under control. Three new cases have developed, and he is afraid it will be well on toward spring before the disease will be completely stamped out.

DISEASE IN CITY DUST.

Montreal can condemn herself for being far behind the other cities of the world in the matter of laying good pavements and keeping her streets free from filth. It seems to be well borne out by facts that much of the sickness prevailing in that city during all seasons of the year can be traced to the dirty condition of the streets, and there seems to be no doubt that many deaths have resulted therefrom.

RE VITAL STATISTICS IN MONTREAL.

Dr. Laberge, M.H. O., has been endeavoring to have all births in the city reported direct to the health office. The following is the communication of the city's solicitor to the local board of health on the subject: "A draft of by-law concerning the reporting of births in the City of Montreal, to the Medical Health Officer, by all physicians or other persons therein specified, having been submitted for our approval, we have the honor to inform you that we are of the opinion that the city's power with respect to the reporting of births is not sufficiently well-defined, by the Charter, to permit of the adoption of such a by-law by the City Council." At the approaching session of the Quebec legislature an endeavor will be made to have the city's charter amended, so that the city council will then be able to pass a by-law as desired by the medical officer.

PATENT MEDICINE IN A COURT OF LAW.

Judgment has been given in Montreal, in a case arising out of an infringement of rights to the use of a certain "doctor's" name in connection with certain medicinal preparations, which we presume are foreign to regulars. The plaintiff took the action, claiming that the defendants were using the name of the doctor to certain pills, the plaintiff asserting that he had purchased the sole right to use this name, from the heirs of the late physician. The judge found that the defendants were misleading the public, as the pills were purported to have been prepared from one of the physician's prescriptions, and its use by others than the rightful owner would therefore be illegal. For these reasons the plaintiff was granted an injunction prohibiting his competitors manufacturing pills with that name or using that name in connection with their manufacture. Damages were not assessed.

CONTAGIOUS DISEASE IN CHARLOTTETOWN, P. E. I.

At a meeting of the Board of Health of this city, the 26th ult., the following resolution was carried unanimously: "That it is the determination of this Board of Health, that in order to prevent the spread of diphtheria in this city, the regulations of the Board and the provisions of the Statute constituting boards of health be strictly carried out by the Health Officer, and the penalties for the breach of such regulations be strictly enforced: and that Sections 1, 2 and 19 of the Rules and Regulations be published, viz: Any householder in whose house in the City of Charlottetown, there shall occur a case of smallpox, cholera, diphtheria, scarlatina, scarlet fever, typhus fever or typhoid fever, shall immediately notify the Board of Health, through its health officer or secretary. 2. When a physician knowns or suspects that any person to whom he has been called is sick of, or has died of, any of the diseases named in Rule 1, he shall immediately notify the Board of Health through the secretary or the health officer. 3. Every physician who has been furnished with proper blanks for the purpose stated shall immediately make such returns as the said blank shall indicate, to the health officer or the secretary.

UNSANITARY HOTELS IN ONTARIO.

The new provincial secretary of Ontario is setting himself out to clean up the rural hotels of the province. Circular letters are being sent to the respective license inspectors or commissioners to impress on landlords holding hotel licenses the desirability of making their places comfortable and wholesome for the traveling public. It is not thought that much expense will be thus thrown on this class of the community by putting their premises in a more sanitary condition, and the inspectors are instructed to report to the department from time to time on the condition of these places in their immediate jurisdiction, and to probably withhold licenses to those who will not meet the requirements of the health of the traveling public in this particular. A copy of the circular is also being sent to the members of the Dominion Travelers' Association, seeking their co-operation, asking for complaints and, further, for them to give expression to suggestions whereby the condition of the hotels might be improved and their own comfort more adequately provided for.

Association News.

Section on Laryngology and Otology.—Members of the AMERICAN MEDICAL ASSOCIATION are cordially invited to contribute papers to the Section on Laryngology and Otology at the next meeting, in Atlantic City, June 5-8, 1900. Owing to the large membership it is necessary for those who desire to be on the program to arrange with the Secretary of this Section at once, in order that place may be reserved for them. According to the rules adopted by the Executive Committee, at Columbus last year:

The number of papers to be read will be limited to forty, each paper not to occupy more than fifteen minutes in reading.

Three addresses by special invitation may be obtained, at the discretion of the officers, from within or without the ASSOCIATION.

Papers are to be accepted in the order of their reception and at the discretion of the Executive Committee. Abstracts of all papers must be sent to the Secretary before May 1, 1900.

Discussions are to be limited to five minutes each.

The sending of the abstract is very important, in order that it may be published in the program, thus facilitating intelligent discussion. An early sending of titles of contemplated papers will be greatly appreciated. No titles can be received after January 28. Christian R. Holmes, Chairman, Cincinnati, Ohio; J. A. Stucky, Secretary, Lexington, Ky.

Deaths and Obituaries.

WM. A. HAMMOND, M.D., surgeon-general U. S. A., retired, died suddenly at his residence in Washington, D. C., on the 6th inst., from heart disease. He was born at Annapolis, Md., Aug. 28, 1828, and was the son of Dr. Jno. W. Hammond. His early education was received at Harrisburg, Pa., whence he subsequently went to New York City, entering the University of New York, from which he was graduated in medicine in 1848. He subsequently studied clinical medicine at the University of Pennsylvania. He was appointed assistant-surgeon in the U. S. Army in 1849. He served three years in Europe and eleven in the West, during which time he made a special study of physiologic chemistry, writing a number of essays on the subject and receiving for one, "Albumen, Starch and Gum as Food," first prize from the AMERICAN MEDICAL ASSOCIATION. In 1861 he resigned his commission in the army to accept the chair of anatomy and physiology in the University of Maryland, but resigned that when the Civil War broke out, re-entering the army as assistant-surgeon. His advancement was rapid and his service brilliant, and in 1862 he was appointed surgeon-general with rank of brigadier-general. He is said to have been the originator of the army ambulance corps and the founder of the Army Medical Museum. In 1864 he was court-martialed and dismissed from the army for alleged irregularities in the awarding of certain Government contracts. He subsequently went to New York City, and engaged in private practice, making a specialty of diseases of the nervous system. From 1867 to 1873, he was professor of diseases of the mind and nervous system in Bellevue Hospital, and was afterward elected to a similar chair in the University of New York, where he remained until 1882, when, with others, he founded the New York Post-Graduate Medical School, becoming a professor therein. He was the author of a number of works

among which were "Physiological Memoirs," "A Treatise on Hygiene," "Wakefulness," "Insanity in its Medicolegal Relations." He was one of the originators of the *N. Y. Medical Journal* and edited the *Quarterly Journal of Physiological Medicine and Medical Jurisprudence*. In 1898, a bill authorizing the President to review the proceedings of the court-martial and, if justice demanded, to reinstate Dr. Hammond, was passed by Congress. The bill was approved by the President the following year and Dr. Hammond was restored to his place on the army rolls as brigadier-general and surgeon-general retired. He was buried at Arlington National Cemetery on January 8, with full military honors.

WM. H. RANDALL, M.D., Augusta, Iowa, died on the 23d ult., aged 60 years. He was a graduate of Castleton (Vt.) Medical College, class of 1857, and during the Civil War enlisted as private in the 11th Massachusetts Infantry, being later commissioned as second assistant-surgeon of the 19th Maine Infantry, and then made surgeon of the regiment, serving as such until the close of the war.

CHAUNCEY P. LANDON, M.D., Westerville, Ohio, aged 73 years, died on the 30th ult. He was a graduate of Starling Medical College, class of 1849, and one of the founders of the Central Ohio Medical Society. He was also one of the oldest members of the Ohio State Medical Society, and twice its president. During the Civil War he was surgeon of the 133d Ohio Volunteer Infantry.

CHARLES STONER SHAW, M.D., Allegheny, Pa., died in Albuquerque, N. M., the 28th ult. He was a graduate of the medical department of the University of Pennsylvania, class of 1879, and physician to the Roselia Foundling Asylum and the Pittsburg Hospital for Children.

Miscellany.

Subject for Comment.—On the appeal of the City of Warsaw vs. Fisher, the appellate court of Indiana holds, two justices dissenting, that in an action for personal injuries counsel for the defendant may comment on the omission of the plaintiff to call as a witness the physician who attended him. It cites as having adjudications to the same effect, Michigan, Missouri, New Hampshire, and New York.

Proof of Insanity of a Criminal Revealed After Conviction.—The conference of the lawyers connected with the Paris court of appeals recently discussed, and decided in the affirmative, the question whether proof of the insanity of a criminal at the "time of the deed," revealed after his condemnation, should be entitled to rank as a *new fact* allowing the revision of the process.

Phototherapeutics with Acetylene.—Extremely satisfactory results are reported by Colleville, in the *Gaz. Hebd.*, 1899, 80, with the therapeutic application of acetylene gas in the form of "acetylith," a new, comparatively odorless product. The lamp is enclosed in a kind of magic lantern with a blue-violet glass in front of the lens to exclude the heat rays. Of the five cases treated three were varicose ulcers, one malus perforans and one ulcus tuberculosum.

Fractures and Radiography.—For the last year and a half Tuffier has had every fracture radiographed before treatment and after the dressings have been applied, and has kept a careful record of the subsequent functional results. He finds, to his astonishment, that in numbers of cases in which the reduction has been clinically perfect and the functional results most satisfactory, the reduction of the bones has in reality been far from perfect. He notes (*Semaine Med.*, Dec. 20, 1899) that it is necessary to insert the stitches as close as possible to the fractured surfaces in suturing bones, to prevent slipping.

The Index.—The closing number of THE JOURNAL of the AMERICAN MEDICAL ASSOCIATION for the second half of the year 1899 contains another instance of its progressive development, in the shape of the index. Besides the usual index matter, there is a special index containing the titles of the abstracts of all the original contributions appearing throughout that period in the principal American medical journals. Following this is a list of authors whose communications are thus dealt with. The great value of this arrangement will be at once evident if we think what a help it would be to us remembering the title of some paper, or remembering that some particular author had written a paper whose title we fail to recall, but the subject-matter of which impressed us. By the use of one or other of these indices, according to circumstances, we can track the paper to its abstract lair, and thence ascertain the journal in which the original appeared.—*N. Y. Med. Jour*, January 6.

Health in Michigan.—Reports for the four weeks ending Dec. 30, 1899, give rheumatism, neuralgia, bronchitis, tonsillitis and influenza as the five most prevalent diseases. Compared with the preceding month, pneumonia and influenza increased and remittent fever decreased in area of prevalence, at the state capital. Throughout the state, consumption was reported at 3 places more, scarlet fever at 13 less, typhoid fever 70 less, measles at 22 more, diphtheria at 18 less, whooping-cough at 1 more, smallpox at 6 less, and cerebrospinal meningitis at 2 places less than in the preceding month.

Pityriasis Rosea.—In the *Jour. of Cut. and Gen.-Urin. Dis.*, January (p. 43), a case of this affection, of interest because it began on the face, thence extending down over the neck and trunk, is reported. Attention is also called to a diagnostic point in differentiating this from an early macular syphilide or other macular eruption, viz., painting the area where the lesions are scarcely perceptible, with Lugol's solution, when the patches and rings will come out and appear of a mahogany color. This reaction does not result in the usual erythematous eruptions, unless there is desquamation, and even then the stain takes less deeply. The test should be applied during the first stages, and is of especial value in avoiding confusion with roseola syphilitica.

Diseases in Philippines.—In an address recently delivered in Baltimore, Md., by L. F. Barker, on some phases of his Philippine trip, he said that the most fatal diseases there are smallpox, typhoid fever, malarial and intestinal troubles. Smallpox, before the arrival of the American, was regarded by the natives as measles is by us, it is so common; but in a few months it was almost stamped out by vaccination. Intestinal troubles are very fatal, death usually resulting after forty-eight hours. If the bacillus can be found, it is likely this can be largely prevented and the efforts of the party the Doctor accompanied, were directed to this with, they believe, success. Good fish is the best food, but bad is the cause of much of the sickness. Ice baths and cold baths must be avoided and one must take the Spanish siesta from 2 to 4 p. m. daily.

Microbes in Holy Water.—Abba, one of the health officers of Turin, Italy, has recently made examinations of the holy water contained in the fonts inside the entrance doors of sacred edifices. Thirty-one specimens from as many churches were analyzed, and the results have more than confirmed his anticipations that this water may be an effective means of transmitting disease. Attention is called to the matter by the *Lancet's* Rome correspondent, in the issue of that journal for Dec. 23, 1899. The water is exposed to the dust that finds free access to the interior of the church, is dipped into by the fingers of the worshipers on Sundays and week days, morning, noon, and night, and the fonts are rarely cleaned. Concerning his recommendation of a weekly washing and disinfection of the pillars from which the fonts project, and of the fonts themselves, and the treatment of the water with antiseptics, the church press expresses marked indignation, condemning the suggestion as "antiritual" and "not free from grave objections."

Injuries from Roentgen Ray Treatment.—Gassmann and Schenkel write to *Fortschritte a. d. Geb. der Roent.* ii, describing four cases of lupus which developed circumscribed ulcers after the usual Roentgen treatment, requiring transplantation in two cases, and in one a peculiar progressive gangrene appeared four weeks after treatment, when the region was almost entirely healed over, commencing in the center and not invading the outer limit for four months. Study of the ulcerations showed a remarkable thickening of the intima of the

vessels, even in the capillaries, but most pronounced in veins and arteries, narrowing the lumen. The intima was dotted with numerous vacuoles generally filled with a reticular mass of delicate fibers. The membrana elastica and in the larger vessels also the externa, were split up into a tangle of irregular fibers, some projecting into the intima. The muscularis was also dotted with numerous vacuoles, and some of the fibers were compressed by the vacuoles and degenerated. This new phenomenon explains the injury from the Roentgen treatment in certain cases, and the slow process of the necrosis, as the deep blood-vessels still contain blood notwithstanding their commencing degeneration. The only successful treatment would be prompt and radical extermination of all the tissue-containing vessels affected with degenerative processes.

Fractures of the Skull.—According to *Muench. Med. Woch.*, Dec. 12, 1899, Habart operates at once on all complicated fractures of the skull, excising all scars in the region of the motor centers, and preventing further irritation by inserting a celluloid plate, which in every case has healed in place without reaction. Epilepsy has become very rare among patients thus treated. In a recent series the frontal or parietal bone had been fractured by a kick from a horse; splinters driven into the dura or brain; wound soiled with horse manure and hairs; coma; collapse. The iodoform tampon was used for ten days, and then the celluloid plate, with rapid and complete recovery in each of the three cases. In a case of paralysis of the lower extremities, bladder and rectum, after a fall from a third story and fracture of the tenth to twelfth dorsal vertebræ, the operation two years later cured the paralysis of bladder and rectum. The patient is progressively improving and can now walk a few minutes at a time. The operation consisted in resecting the arches and spinous processes of the fractured vertebræ, and removing the thickened portion of the cord, pachymeningitis hemorrhagica and sheets of bony deposits, with scissors or curette, which allowed the compression myelitis to heal. The lost bone was substituted by a celluloid plate, 10 by 4 cm.

Deafness and Children of Deaf-Mutes.—Recently, before the Johns Hopkins Scientific Association in Baltimore, Md., Dr. William K. Brooks spoke on inherited deafness, and controverted a report of Prof. Alexander Graham Bell, who said that while it is commonly believed that most of the deafness is found in the children of deaf-mutes, it is, in fact, found oftener in the children of hearing parents who have deaf relatives. He attributed much of the deafness to the hearing of deaf-mutes, and said that when the parents are normal, the rate of deaf-mute children is 1 in 10,000, while 1 child in 10 of deaf-mute parents is a deaf-mute. He said that only 1.5 per cent. of the children born to deaf-mute parents will be deaf unless they have deaf-mute relatives, while 33 per cent. of those having deaf-mute relatives will be deaf. Twenty years ago, Dr. B. made this assertion in a report for an English scientific society, on the conditions necessary for inherited deafness. The lapse of time has confirmed him in this belief. Moreover, a larger proportion of children from hearing parents having deaf relatives will be deaf than those of deaf-mute parents. The most dangerous marriage of all is one that is consanguineous, where a deaf-mute with a deaf relative marries a deaf relative.

Our Army Surgeons.—The *Army and Navy Journal*, January 6, in an editorial under the above heading urges the passage of the bill to increase the medical department of the army. It reviews the duties of the army surgeon as a sanitary officer and as a physician and surgeon and concludes as follows:

We are coming nearer every year to the true appreciation of the heroic part of the surgeon's labors. We are more clearly seeing that the hand that wields the alleviating scalpel, or administers the soothing potion, may strike as nobly for victory as the colossal figure striding up and down the firing line. During the epidemics of fever in the Spanish War, our surgeons worked day and night, debilitating their systems until in many cases they themselves fell victims to the disease. Those were sacrifices of patriotism not the less noble because made without the stimulus of momentary excitement and for the salvation of others. Perhaps it would not be altogether unfortunate if the bill should cause some debate in Congress, to the end that the champions of our army surgeons might place before the country the real service they have done and the greater service a wise provision now will enable them to perform in the greater days to come.

No training so nearly simulates the soldier's as that of the medical profession. The doctor must hold himself at all times in readiness for the call of duty, as the soldier does, and must, like the soldier, accept without complaint or hesitation the risks to life and health attending the discharge of duty. It is not alone on the field of battle that the medical man runs these risks. They come to him in the course of an ordinary medical practice; he must often go where he will permit no one else to go, because of the danger of infection from deadly disease. The record of army surgeons, from the days of Napoleon's Baron Larrey until now, has been one that honors their profession and dignifies humanity.

The Gallinger Antivivisection Bill.—Mr. Gallinger introduced the following bill in the Senate of the United States, Dec. 6, 1899 (S. 34), which was read twice and referred to the Committee of the District of Columbia:

A BILL FOR THE FURTHER PREVENTION OF CRUELTY TO ANIMALS IN THE DISTRICT OF COLUMBIA.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter no person shall perform on a living vertebrate animal any experiment calculated to give pain to such animal, except subject to the restrictions hereinafter prescribed. Any person performing or taking part in performing any experiment calculated to give pain in contravention of this Act shall be guilty of an offense against this Act, and shall, if it be the first offense, be liable to a penalty not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable, at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars, or to imprisonment for a period not exceeding six months.

Section 2.—That the following restrictions are imposed by this Act with respect to the performance on any living vertebrate animal of an experiment calculated to give pain to such animal; that is to say:

a. The experiment must be performed with a view to the advancement by new discovery of physiological knowledge or of knowledge which will be useful for saving or prolonging life or alleviating suffering; and

b. The experiment must be performed by a person holding such license from the Commissioners of the District of Columbia as in this Act mentioned, or by a duly authorized officer of the Government of the United States, or of the District of Columbia; and

c. The animal must, during the whole of the experiment, be completely under the influence of ether or chloroform sufficiently to prevent the animal from feeling pain, excepting only that in so-called inoculation experiments or tests of drugs or medicines, the animal need not be anesthetized nor killed afterwards, nor in tests of surgical procedure need animals be kept completely anesthetized during the process of recovery from the surgical operation. Otherwise than this the animal must be kept from pain during all experiments; and

d. The animal must, if the pain is likely to continue after the effect of the anesthetic has ceased, or if any serious injury has been inflicted on the animal, be killed before it recovers from the influence of the anesthetic which has been administered; and

e. No experiment shall be made upon any living creature, calculated to give pain to such creature, in any of the public schools of the District of Columbia; provided as follows, that is to say:

1. Experiments may be performed under the foregoing provisions as to the use of anesthetics by a person giving illustrations of lectures in medical schools, hospitals, or colleges, on such certificate being given, as in this Act hereafter mentioned, that the proposed experiments are absolutely necessary for the due instruction of the persons to whom such lectures are given, with a view to their acquiring physiological knowledge or knowledge which will be useful to them for saving or prolonging life or alleviating suffering; and

2. The substance known as urari or curare shall not, for

the purposes of this Act, be deemed to be an anesthetic; and

3. Notwithstanding anything in this Act contained, no experiment calculated to give pain shall be performed on a dog or cat, except upon such certificate being given, as in this Act mentioned, stating, in addition to the statements hereinbefore required to be made in such certificate, that for reasons specified in the certificate the object of the experiment will be necessarily frustrated unless it is performed on an animal similar in constitution and habits to a cat or dog, and no other animal is available for such experiment; and an experiment calculated to give pain shall not be performed on any horse, ass, or mule, except on such certificate being given, as in this Act mentioned, that the object of the experiment will be necessarily frustrated unless it is performed on a horse, ass, or mule, and that no other animal is available for such purpose; and

4. Any exhibition to the general public, whether admission be on payment of money or gratuitous, of experiments on living animals calculated to give pain shall be illegal.

Any person performing or aiding in performing such experiment shall be deemed to be guilty of an offense against this Act, and shall, if it be the first offense, be liable to a penalty not exceeding one hundred and fifty dollars, and if it be the second or any subsequent offense, shall be liable at the discretion of the court by which he is tried, to a penalty not exceeding three hundred dollars, or to imprisonment not exceeding six months; and any person publishing any notice of any such intended exhibition by advertisement in a newspaper placard, or otherwise, shall be liable to a penalty not exceeding ten dollars.

A person punished for an offense under this section shall not for the same offense be punishable under any other section of this Act.

Section 3.—That the Commissioners of the District may insert, as a condition of granting any license, a provision in such license that the place in which any such experiment is to be performed by the licensee is to be registered in such manner as the said Commissioners may from time to time by any general or special order direct: *Provided*, That every place for the performance of experiments for the purpose of instruction shall be approved by the said Commissioners, and shall be registered in such manner as the said Commissioners may from time to time by any general or special order direct.

Section 4.—That the Commissioners of the District, upon application as hereinafter prescribed, may license any person whom they may think qualified to hold a license to perform experiments under this Act: *Provided only*, That a license shall not be granted to any person under the age of twenty-five years, unless he be a graduate from a medical college, duly authorized to practice medicine in the District of Columbia.

Section 5.—That the Commissioners of the District may direct any person performing experiments under this Act from time to time to make reports to them of the methods employed and the results of such experiments, in such form and with such details as the said Commissioners may require.

Section 6.—That the President of the United States shall cause all places where experiments on living vertebrate animals are carried on, in the District of Columbia, to be from time to time visited and inspected without previous notice for the purpose of securing compliance with the provisions of this Act; and to that end shall appoint four inspectors, who shall serve without compensation, and who shall have authority to visit and inspect the places aforesaid, and who shall report to the President of the United States from time to time the results of their observations therein, which shall be made public by him.

Section 7.—That any application for a license under this Act, and for a certificate to be given as in this Act mentioned must be signed by three physicians duly licensed to practice and actually engaged in practicing medicine in the District of Columbia, and also by a professor of physiology, medicine, anatomy, medical jurisprudence, materia medica, or surgery in the medical department of any duly established reliable school or college in the District of Columbia: *Provided*, That when any person applying for a certificate under this Act is himself one of the persons authorized to sign such certificate, the signature of some other of such persons shall be substituted for the signature of the applicant.

A certificate under this section may be given for such time or for such series of experiments as the persons signing the certificate may think expedient.

A copy of any certificate under this section shall be forwarded by the applicant to the Commissioners of the District, but shall not be available until one week after a copy has been so forwarded.

The Commissioners of the District may at any time disallow or suspend any certificate given under this section.

Section 8.—That the powers conferred by this act of granting a license or giving a certificate for the performance of an experiment on living animals may be exercised by an order in writing, under the hand of any judge of a court of record having criminal jurisdiction in the District, in a case where such judge is satisfied that it is essential for the purpose of justice in a criminal case to make such experiment.

Dental Anomalies in Hereditary Syphilis.—Galippe recently exhibited some casts of teeth, proving that the "Hutchinson types" may be encountered in persons absolutely free from any syphilitic taint.

Queries and Minor Notes.

PHYSICIANS' TRIP TO PARIS.

BALTIMORE, MD., Dec. 30, 1899.

To The Editor.—It is reported that 300 Western physicians have chartered the *City of Rome* for a voyage to Paris, with the object of attending the International Medical Congress and the exposition. Could you inform me who is the proper person to address concerning this plan? Yours cordially,

J. C. HEMMETER, M.D.

ANSWER.—Write to J. W. Pettit, Ottawa, Ill., member of the Committee of Arrangements for the Illinois State Medical Society, or Dr. J. W. Cokenower, Des Moines, Iowa, secretary of the Iowa State Medical Society.

ASEPTIC OR ANTISEPTIC.

NORWICH, N. Y., Jan. 2, 1900.

To the Editor.—A collapsible tube, previously sterilized, is filled with an antiseptic ointment and immediately hermetically sealed. The peculiar office of this container is to protect its contents against the invasion of the atmosphere with its attendant micro-organisms. May a tube thus used be correctly termed antiseptic? We have been for many months—and with the best intention in the world—advertising one of our preparations as "An Antiseptic Dressing in an Antiseptic Container." Now a prominent physician calls us down—says the tube is aseptic, not antiseptic. Will you kindly set us right? Very truly yours,

N. P. Co.

ANSWER:—According to the accepted definition of the terms "antiseptic" and "aseptic," it would appear that the phrase, "An Antiseptic Dressing in an Antiseptic Container, would be verbally correct. Foster, in his Medical Dictionary, defines the former as "Preventing or checking putrefaction or septic infection," which might as well apply to any germ-proof receptacle as to a chemical reagent. At the same time we could not correctly say of the vessel that it is "aseptic," a term defined as "free from putrefaction and its causes," unless it has been externally as well as internally disinfected and remained in that state. In the choice of words it would seem that only "antiseptic" can be properly used. Surgically there has lately come into use an application of these terms that is not exactly in accord with the above definition, and this may cause confusion. "Antisepsis" is thus sometimes used simply as meaning the destruction or counteraction of sepsis as opposed to "asepsis" in its proper sense. It really means more—it means protection of aseptic substances from sepsis, as well as its destruction, and in this sense its application to a germ-proof container is correct.

PRACTICE IN FRANCE.

AKRON, OHIO, Jan. 6, 1900

To the Editor.—In your issue of Dec. 30, 1899, you write editorially of "Practice in France." I would like to know the laws regulating practice there, more fully than put forth in your article. Will you kindly give me the steps necessary for an American graduate to secure the right to practice in France for the benefit of English-speaking people attending the exposition.

Respectfully yours, G. M. T.

ANSWER:—To practice medicine in France the possession of a diploma from a French faculty (Paris, Montpelier, Nancy, Bordeaux, Lyons, Lille, or Toulouse) is requisite, and it must have been obtained in the same way as by the French students, that is, the preliminary studies and the full professional curriculum must have been passed. It is possible, we believe, for foreigners to obtain a French diploma, not entitling them to practice, by showing qualifications and paying a heavy fee, but this is purely honorary, and conveys no professional rights.

The Public Service.

ARMY CHANGES.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., Dec. 22-27, 1899, inclusive:

Samuel T. Armstrong, major and surgeon, Vols., from the Division of Cuba to Fort Slocum, N. Y., to accompany recruits on the transport *Sumner*, sailing on or about Jan. 15, 1900, for Manila, P. I., where he will report for duty with the 8th Army Corps.

Walter Cox, lieutenant and asst.-surgeon, U. S. A., from Fort Reno, Okla., to the Department of California.

Benjamin J. Edger, Jr., lieutenant and asst.-surgeon, U. S. A., previous orders to California revoked; he will report for duty to the superintendent U. S. Military Academy, West Point, N. Y.

James H. Hysell, major and surgeon, Vols., leave of absence extended.

Richard W. Johnson, major and surgeon, U. S. A., from duty at Chicago, Ill., to the Department of California.

Edward Lyon, Jr., acting asst.-surgeon, relieved from further duty in the Division of Cuba, to report to the surgeon-general, Washington, D. C., for orders.

G. A. McHenry, acting asst.-surgeon, leave of absence granted.

Edward L. Munson, captain and asst.-surgeon, U. S. A., to Philadelphia, Pa., in connection with the construction of new hospital tents at the clothing depot, Schuylkill arsenal.

Jefferson D. Poindexter, captain and asst.-surgeon, U. S. A., from San Francisco, Cal., to Fort Reno, Okla.

Henry I. Raymond, major and surgeon, Vols., relieved from further duty in the Department of the Pacific and 8th Army Corps, to be assigned as attending surgeon and examiner of recruits at Chicago, Ill.

George B. Story, acting asst.-surgeon, from Fort Canby, Wash., to the Department of California.

NAVY CHANGES.

Changes in the Medical Corps of the U. S. Navy for the week ending Dec. 30, 1899.

Surgeon H. E. Ames, order of December 20 modified; ordered to duty in connection with fitting out the *Kearsarge*, Newport News, Va.

Asst.-Surgeon E. J. Grow, detached from the *Massachusetts* and ordered to the *Dixie*.

Medical Inspector M. H. Simons, ordered to Cleveland, Ohio, for recruiting duty.

MARINE-HOSPITAL CHANGES.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 7 days ending Dec. 28, 1899.

Surgeon H. W. Sawtelle, granted leave of absence for 30 days.

Surgeon W. P. McIntosh, granted leave of absence for 5 days.

P. A. Surgeon J. C. Perry, to proceed to Amoy, China, for special temporary duty.

P. A. Surgeon M. J. Rosenau, to proceed to Baltimore, Md., for special temporary duty.

P. A. Surgeon A. R. Thomas, to proceed to New York City and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty; to proceed to Rotterdam, Netherlands, for duty.

Asst.-Surgeon L. E. Cofer, granted leave of absence for one month.

Asst.-Surgeon S. R. Tabb, granted leave of absence for 15 days.

Acting Asst.-Surgeon Francis Duffy, granted leave of absence for 7 days.

HEALTH REPORTS.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 29, 1899.

SMALLPOX—UNITED STATES.

Colorado: Leadville, December 14, 1 case.

District of Columbia: Washington, December 16 to 23, 2 cases.

Illinois: Cairo, December 16 to 23, 6 cases.

Kentucky: Louisville, December 14 to 21, 1 case.

Massachusetts: Boston, December 16 to 23, 3 cases; Lowell, December 16 to 23, 1 case.

Michigan: Detroit, December 2 to 9, 8 cases.

Missouri: Springfield, August 15 to December 20, 150 cases, 4 deaths.

Nebraska: Omaha, December 16 to 23, 1 case.

Tennessee: Nashville, December 16 to 23, 4 cases.

Virginia: Norfolk (vicinity of), December 16 to 23, 1 death; Portsmouth, December 16 to 23, 1 death.

SMALLPOX—FOREIGN.

Canada: Ontario, October 30 to December 16, 122 cases; Quebec, December 12 to 16, 23 cases.

Ceylon: Ceylon, November 4 to 11, 1 case, 1 death.

China: Honkkong, November 4 to 11, 1 death.

England: London, December 2 to 21, 1 case.

Mexico: Vera Cruz, December 14 to 21, 1 death.

Spain: Carunpa, November 25 to December 2, 4 cases, 2 deaths.

YELLOW FEVER—FOREIGN.

Colombia: Panama, December 12 to 19, 2 cases, 1 death.

Cuba: Havana, December 2 to 16, 8 cases, 9 deaths; Santiago, December 2 to 9, 2 cases.

Mexico: Vera Cruz, December 14 to 21, 2 deaths.

CHOLERA.

Straits Settlement: Singapore, October 21 to 28, 2 deaths.

PLAGUE.

China: Hiuchwang, November 2, disease abating.

CHANGE OF ADDRESS.

Burkholder, S. G., from 3135 Vernon Ave. to 1816 Michigan Ave. Chicago.

Brown, G. R., from 1245 E. 3d St. to 49 W. 5th St., Cincinnati, O.

Bryan, F. F., from Georgetown, Ky., to Newbury Hotel, Chicago.

Burgess, S. F. K., from 552 Madison to 9 South Ada, Chicago.

Caldwell, W. S., from Calcutta, India, to Naples, Italy; care of Thomas Cook & Son.

Capehart, P. W., from Kittrele to Charlotte, N. C.

Chappee, F. F., from 444 to 425 E. 63d St., Chicago.

Dorr, H. I., from 403 Newbury to 284 Foster, Boston, Mass.

Dargatz, G. G., from 440 10th to Shupert Bldg., Kansas City, Mo.

Eckman, B. F., from Mount Carmel, to Georgetown Ky.

Jessen, J. H., from South Omaha to Lexington, Neb.

Knauf, F. P., from 318 Ogden Ave. to 188 Warren, Chicago.

Killey, P. H., from Kyle to Vivian, W. Va.

McGovern, A. C., from St. James to Shorburn, Minn.

Parsons, S. F., from 580 W. Madison to 522 Congress, Chicago.

Reasoner, R. W., from Morrisonville, Ill., to Colorado Springs, Colo.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

is published weekly, at 61 Market Street, Chicago, Ill. The subscription price is five dollars per annum in advance. Postage in the United States, Canada and Mexico, free; foreign postage, $2.50. Subscriptions may commence at any time. Volumes begin with the first issue of January and of July.

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